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31 MARCH 1987

# USSR Report

## NATIONAL ECONOMY

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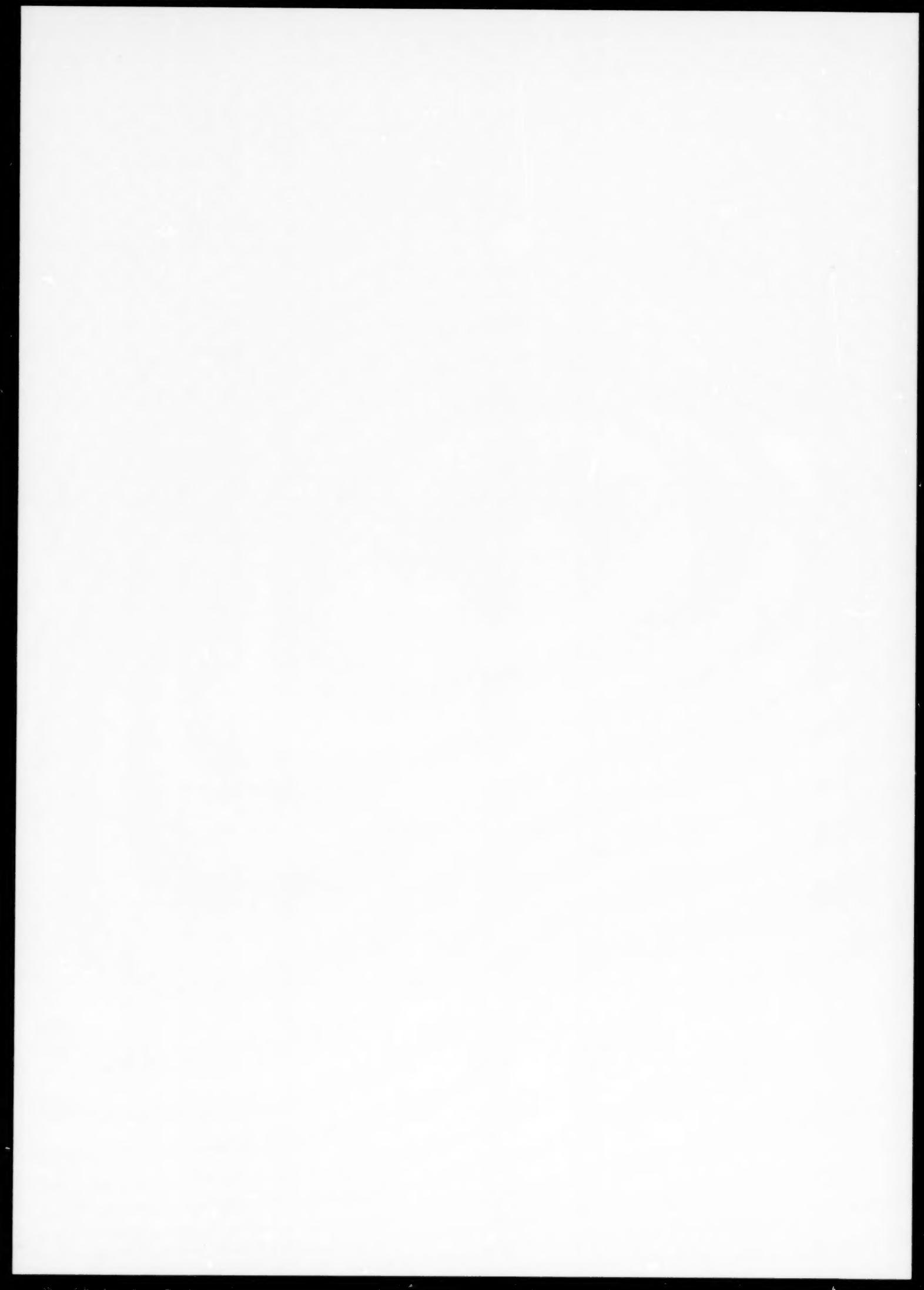
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USSR REPORT  
NATIONAL ECONOMY

CONTENTS

ECONOMIC AFFAIRS

Statute on State Acceptance of Production Published (EKONOMICHESKAYA GAZETA, No 50, Dec 86, No 2, Jan 87).....	1
State Inspection of Production	1
Test for Quality	5
Assessment of Delivery Obligations	7

INVESTMENT, PRICES, BUDGET, FINANCE

Gosplan Economist on Fixed Capital Replacement Optimization (A. Malygin; EKONOMICHESKAYA GAZETA, No 2, Jan 87).....	16
--	----

AGRICULTURE

ACRO-ECONOMICS, POLICY, ORGANIZATION

Party Official Assesses Kuban Combine Results (A. Maslov; PARTIYNAYA ZHIZN, No 1, Jan 87).....	24
Agroprom Progress Under New Economic Mechanism Viewed (PRAVDA, 2 Feb 87; IZVESTIYA, 27 Jan 87).....	30
Major Restructuring Problems, by V. Somov	30
Changes Slow in Ukraine, by S. Troyan	35

Academician on Altay APK Cost-Accounting Problems (M. Gritsenko; SELSKAYA ZHIZN, 30 Jan 87).....	39
MAJOR CROP PROGRESS, WEATHER REPORTS	
Weather Conditions, Seed Situation in Belorussia (SELSKAYA GAZETA, various dates; SELSKAYA ZHIZN, various dates).....	42
Unsatisfactory Seed Situation	42
Record Cold in January, V. A. Avvakumov Interview	44
Livestock, Crop Wintering	45
Minsk: First-Category Grain Seeds, by V. Legankov	46
Vitebsk: Care of Winter Crops, by G. Krasnoperov	46
Weather Damage to Crops	46
Preparations for Spring Sowing, by G. Krasnoperov	47
Weather Conditions, Grain Seed Situation in North Caucasus (Various sources, various dates).....	48
Strain Renovation Work in Stavropol Kray, by S. Timofeyev	48
Winter Storm Conditions	49
Heavy Snowfall	50
Stavropol Thunderstorm	50
Extremely Cold Weather, by A. Snitkovskiy, A. Shuvalov	51
Snowstorm Strikes Moscow, by N. Kisilevskaya	51
Severe Winter Weather Conditions	52
Unusual Winter Weather Conditions, by V. Yunisov	52
High Quality Seed, by Yu. Semenenko	53
Seed Preparation for Spring Sowing, by Yu. Semenenko	54
New Wheat Varieties, by Yu. Semenenko	54
Editorials Comment on Preparations for 1987 Grain Crop (PRAVDA, 20 Dec 86; SELSKAYA ZHIZN, 6 Jan, 3 Feb 87).....	56
Concern for Grain Field Expressed	56
Increased Effort Required	59
1987 Grain Plan Discussed	60
LIVESTOCK AND FEED PROCUREMENT	
More Effective Breeding Service Operations Recommended (Tengiz Grigoryevich Dzhabaridze; SELSKAYA ZHIZN, 7 Feb 87).....	63
Livestock Procurement Regional Progress Discussed (R. Tabayev, V. Bazilevich; EKONOMIKA SELSKOGO KHOZYAYSTVA, No 1, Jan 87).....	67

## MACHINERY, EQUIPMENT

Sector Head Critiques Equipment Repair Progress  
(A. A. Georgobiani; TEKHNIKA V SELSKOM KHOZYAYSTVE,  
No 12, Dec 86)..... 73

## CONSTRUCTION

### POLICY, ORGANIZATION

Proposals for Improving Capital Construction Plan  
(V. Pchelkin, et al.; PLANOVYE KHOZYAYSTVO, No 12,  
Dec 86)..... 80

Method Proposed To Improve Organization of Construction  
(G. Subbotin; PLANOVYE KHOZYAYSTVO, No 1, Jan 87)..... 91

## HUMAN RESOURCES

### LABOR

Effect of Manpower Deficit on Production Noted  
(V. Chichkanov; IZVESTIYA, 22 Jan 87)..... 100

## TRANSPORTATION

### MOTOR VEHICLES, HIGHWAYS

Official on Lagging Automotive Electronics Production  
(Vladimir Borisovich Kleymenovyy Interview;  
SOTSIALISTICHESKAYA INDUSTRIYA, 30 Dec 86)..... 105

Kutaisi Motor Vehicle Works Changes Planned  
(Muradi Alashvili; ZARYA VOSTOKA, 14 Dec 86)..... 107

### RAIL SYSTEMS

Amur-Yakutsk Mainline Construction Hits Snags  
(IZVESTIYA, 24 Jan 87; GUDOK, 8 Jan 87)..... 111

Financing Scandal, by O. Borodin, V. Kulikov ..... 111  
Bridge Construction Delays, by M. Morozov ..... 113

USSR 1986 Railroad Performance Statistics  
(GUDOK, 24 Jan 87)..... 115

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## STATUTE ON STATE ACCEPTANCE OF PRODUCTION PUBLISHED

State Inspection of Production

Moscow EKONOMICHESKAYA GAZETA in Russian No 50, Dec 86 p 7

[Text of Statute on State Inspection of Production, confirmed by Decree No 542 of the USSR Council of Ministers: "Statute on State Inspection of Production in Associations and Enterprises"]

### [Text] I. General Provisions

1. The present Statute is being disseminated to associations and enterprises\* at which organs of the State Inspection of Production\*\* have been created. The Statute defines the basic rights and duties of the State Inspection in enterprises, the interrelations between the managers of the State Inspection and the managers of enterprises, and establishes the duties of enterprise managers with respect to the creation of the requisite conditions guaranteeing the normal operation of the State Inspection organs.

2. The State Inspection carries out its activity in accordance with the laws and other decisions of the USSR Supreme Soviet and its Presidium, the decrees and orders of the USSR Council of Ministers, and other normative acts and the present Statute.

3. The organs of State Control in enterprises are subordinated to the USSR State Committee for Standards and are maintained at the expense of an estimate of this committee.

### II. Organization of the Work of State Control

4. The State Control carries out:

Control of the quality and inspection of production at any stage of manufacture, the verification of its conformity to the requirements of the standards and technical conditions, the established models (standards), the planning-design and technical documentation, and the delivery and contract conditions.\*\*\*

\* )In what follows are called "enterprises".

\*\*)In what follows are called "State Inspection".

\*\*\*)In what follows are called "established requirements".

selective verification, disassembling, and testing, in case of necessity, of individual units, sets and articles. The volumes of control and the list of articles being checked are determined by the managers of State Inspection by agreement with the manager of the enterprise;

final inspection of finished and fully completed production in accordance with established requirements.

5. State Inspection is obliged to:

a) implement control of the quality of manufacture, the observance of technological processes, and the conduct of tests of units, sets and articles, as well as the conformity of the quality of supplementary products, semimanufactures, materials and raw materials being received that are used for the manufacture of production, to the established requirements;

b) implement control over timely introduction and observance of standards and technical conditions, over the technical state and timely conduct of checks of control and measuring instruments, equipment, devices, appliances, and test units being used in the inspection and tests of production;

c) implement control over the fulfillment, by the enterprise, of decisions of the USSR Government and other competent organs in regard to questions of increasing the quality, reliability and life of the production being turned out;

d) analyze, jointly with the enterprise manager, the reclamation of production being received from consumers, for the purpose of studying defects and adopting measures to eliminate them in production, both in the production stage and already at the consumer; take part in the registration of reclamations of poor-quality and incomplete products being received from suppliers;

e) implement control over the execution of measures aimed at increasing the quality of production;

f) take part in the state certification of production;

g) take part in the conduct of periodic, standard and other tests of production for the purpose of checking its quality and reliability and draw conclusions concerning the results of the tests;

h) implement control over the quality of technical documentation of the production being received and periodically check on the state of its originals;

i) report to the ministry or department-manufacturer, as well as to the USSR State Committee for Standards, cases, where conditions are being created in an enterprise that may lead to the output of poor-quality production, and where measures being taken by the enterprise manager to eliminate the exposed shortcomings are ineffective.

6. The manager of State Inspection does not accept production and, if necessary, halts its dispatch:

- a) in case of the nonconformity of the manufactured production to the established requirements;
- b) in case of negative results of product testing;
- c) in case of repeated violations of the manufacturing process of production that is provided for by the established requirements;
- d) in case of the discovery, in the process of using the product, of defects that cause damage [disablement], if these defects are also present in the products that are still in production;

The acceptance of products is renewed after the conduct of measures, coordinated with State Inspection, to eliminate the exposed shortcomings.

The manager of State Inspection bears personal responsibility for the unfounded delay of product acceptance.

7. Production that is not accepted by State Inspection cannot be dispatched from the enterprise.

8. The procedure for the conduct of State Inspection of production is established by the USSR State Committee for Standards.

### III. The Interrelationships of State Inspection and Enterprise

9. The presence of State Inspection does not take away the responsibility of the enterprise manager for the guarantee of the proper quality of the products being turned out.

10. The products presented to State Inspection must be accepted by the technical control service of the enterprise and must conform to the established requirements.

11. The enterprise manager is obligated to:

- a) Present products to the inspection in good time;
- b) take measures in good time to eliminate the shortcomings and defects in production exposed by State Inspection in the manufacture, tests, control and inspection, as well as discovered by consumers in the process of use, devoting special attention to the adoption of urgent measures to eliminate [critical] observations with respect to the products being used;
- c) take measures for the uniform presentation of products for inspection;
- d) present to State Inspection all materials and technical documentation pertaining to its activity;
- e) guarantee the safety, the requisite technical state, and the timely execution of the established technical maintenance of the products accepted for responsible storage, and the observance of the regulations for the conservation, packaging and storage of products.

12. Officials carrying out the state inspection of production bear responsibility established by legislation for the non-fulfillment of the duties with which they have been charged and for the irregular use of the rights granted to them.

13. For the creation of normal conditions of the work of State Inspection, the enterprise manager provides it with:

- a) Control and measuring instruments, equipment, devices, appliances and testing units;
- b) production personnel for the conduct of tests and work connected with the inspection of production;
- c) equipped office premises, necessary means of communication and transportation, office supplies and services for clerical work;
- d) living space and all kinds of social-consumer and medical services equal with the workers of the given enterprise;
- e) necessary scientific-technical information and literature;

14. Officials of the State Inspection do not have the right to interfere in the official activity of the administration of the enterprise, and the administration--in the official activity of the State Inspection.

15. The workers of the State Inspection, following established procedure, are admitted to the enterprise, to the work and documents, and are provided with passes to the office and production premises.

State Inspection organizes its work with regard to the labor regulations established at the enterprise.

16. Wages and material incentives of the State Inspection workers are effected by the USSR State Committee for Standards.

17. The payment, to State Inspection officials, of rewards for their inventive and rationalization proposals that are accepted for use is effected only with the agreement of the USSR State Committee for Standards.

The payment by enterprises and ministries (departmental), to State Inspection officials, of any other monetary rewards or rewards in kind is prohibited.

18. Disagreements arising between the enterprise and State Inspection in regard to questions connected with the assessment of the quality of production, as well as in regard to other questions of the activity of State Inspection, are resolved by the USSR State Committee for Standards jointly with the corresponding ministry (department).

19. The managers of State Inspection, jointly with the managers of enterprises, organize the systematic information of the labor collectives concerning

the state of affairs in regard to the quality of the production being turned out and extend active assistance to the administration, the party, trade union, and Komsomol organizations of the enterprises in the work being conducted in the collectives in regard to the strengthening of technical discipline, the increase of responsibility for the results of the work being carried out, the propagation of the experience of advanced enterprises, collectives and workers with respect to securing high-quality production.

#### Test for Quality

Moscow EKONOMICHESKAYA GAZETA in Russian No 50, Dec 86 p 7

[Unattributed article containing guidelines for quality testing: "Test for Quality"; first paragraph is EKONOMICHESKAYA GAZETA introduction]

[Text] In the course of the preparation for state inspection of production, the enterprises and associations are guided by the obligatory enumeration of measures established by the joint orders of the USSR State Committee for Standards and the branch ministries. Their precise execution, as experience shows, makes it possible for collectives to create more quickly the prerequisites for the delivery of production to the organs of State Inspection from the first presentation. They may be useful, not only for those 1,500 enterprises that must fully go over to State Inspection as of 1 January 1987, but also for all others: The enumeration will serve as a good basis for the plan of organizational and technical measures aimed at increasing production quality.

#### Normative-Technical Documentation

The presence of normative-technical documentation (NTD) is verified for all production being turned out. It is necessary to bring it into full conformity with the requirements of state standards.

#### Sequence and content of work:

To verify the presence of state, industrial and republic standards and technical conditions for all production being turned out.

To examine them from the standpoint of conformity to the requirements of state standards, including the verification of conformity of:

--the registration and confirmation of state standards with the requirements of GOST [All-Union State Standard] 1.7-85 and 61 (not further identified) 60-74-83;

--industrial and republic standards--GOST 1.19-85 (presence of the stamp of the organ of registration with indication of the date and number of state registration);

--technical conditions--GOST 1.3-85 (presence, on the title page, of the stamp of the organ of registration with indication of the date and number of state registration).

Industrial and republic standards and technical conditions that have not gone through registration are considered to be invalid, and the production of output and the inspection of production in accordance with them is prohibited.

To verify the term of operation of normative-technical documentation.

To conduct a check of the construction, exposition, registration, and content of standards for conformity with GOST 1.5-85; the conformity of the construction, exposition, registration and content, as well as the accounting and keeping of the technical conditions, with the standards of the Unified System of Design Documentation (YeSKD).

To verify the procedure for the accounting and keeping of standards for conformity with GOST 1.13-85.

To carry out the verification of information and reporting concerning the introduction of standards in enterprises and their conformity with GOST 1.20-85.

To conduct work (in case of necessity) in regard to bringing the normative-technical documentation into conformity with the requirements of state standards in the procedure established by GOST 1.15-85.

#### Technological Processes

Checks are carried out concerning the presence of technological processes (regulations) approved in accordance with established procedure, design and technological documentation, and technological equipment. In the absence of such documents, as well as if the approved documents do not secure the requisite quality, it is necessary to work out new ones or to revise the existing ones. This must guarantee the complete technological readiness of the enterprise for the production of a product in conformity with the requirements of design documentation.

What is meant is the following work:

--Bringing the design documentation in conformity with the standards of the Unified System of Technological Preparation for Production (YeSTPP), which establish the regulations for the guarantee of the adaptability to streamlined manufacture of the design of a product;

--the approval of the production process;

--the introduction of control of the production processes and the assessment of the adequacy of control operations in the process of product manufacture.

In addition, a check must be made of the presence, in the production process, of the requirements concerning the obligatory control of the first component and the presence of acts of introduction in every adjusted production process.

The following are also checked: The presence, in the enterprise, of regulations and charts for checks of production processes by shop and plant commissions and the conformity of the applicability of the equipment and control and measuring

equipment to the requirements of the production process; the execution of the established production operations and changes, and the observance of the work routines and other conditions envisaged by the production process.

One cannot lose sight of the state of rigging, equipment and tools, and their conformity to the requirements of technological documentation; the presence of a note about the collation of technological documentation for the conformity of the currently effective design and normative-technical documentation, as well as label-tags on the desks or instruments with a note about the latest checks and the integrity of the lead seal.

Along with this, the following are checked: The presence of the manufacturer's certificate and operating and servicing manual, the apparatus and equipment and notes on them about periodic checks; the state of technological documentation at the work stations; and the guarantee, in the production premises, of the temperature, humidity and purity of the air required by the technical documentation.

All shortcomings, variant readings, and observations are taken under special control. Their realization must be at the center of attention in subsequent checks.

#### Assessment of Delivery Obligations

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 87 p 16

[Text of "Instruction on the Procedure for the Accounting and Determination of the Level of the Fulfillment of Tasks and Obligations in Regard to Deliveries of Products and Articles in Accordance With Concluded Contracts in the Assessment of the Activity of Associations, Enterprises and Organizations," approved on 23 December 1986; published in the column "New Official Materials"; first paragraph is EKONOMICHESKAYA GAZETA introduction]

[Text] Beginning on 1 January 1987, the 100-percent fulfillment of tasks and obligations in regard to deliveries of products and goods in accordance with concluded contracts is being introduced as a basic indicator of the assessment of the economic activity of associations, enterprises and organizations. As was already reported (EKONOMICHESKAYA GAZETA No 52, 1986), the Commission for the Improvement of Administration, Planning and the Economic Mechanism approved the "INSTRUCTION ON THE PROCEDURE FOR THE ACCOUNTING AND DETERMINATION OF THE LEVEL OF THE FULFILLMENT OF TASKS AND OBLIGATIONS IN REGARD TO DELIVERIES OF PRODUCTS AND ARTICLES IN ACCORDANCE WITH CONCLUDED CONTRACTS IN THE ASSESSMENT OF THE ACTIVITY OF ASSOCIATIONS, ENTERPRISES AND ORGANIZATIONS." It was approved on (23 December 1986) by USSR Gosplan, the USSR State Committee for Material and Technical Supply, the USSR State Committee for Labor and Social Problems, the USSR Ministry of Finance, the USSR Statistical Administration, and the AUCCTU. At the request of our readers, the text of this document is printed below.

1. The present Instruction was worked out in accordance with the decree of the CPSU Central Committee and the USSR Council of Ministers "On Increasing the Responsibility of Associations, Enterprises and Organizations for the Fulfillment

of Contracts for the Delivery of Products and Articles" and established the procedure for the accounting and determination of the level of the fulfillment, by associations, enterprises and organizations, of their obligations with respect to deliveries of products destined for production and technical use and consumer products (including those being supplied for export), tasks with respect to the assimilation, in production, of products of new technology, as well as the fulfillment, by specialized enterprises, of repair work\* (Footnote) (Subsequently called "production") in the assessment of the results of their economic activity.

2. The accounting of the fulfillment of tasks and obligations in regard to deliveries of production is conducted by all production associations, enterprises and organizations of industry, including specialized enterprises carrying out repair work on machines, equipment, and other industrial production, supply-marketing and wholesale trade associations, enterprises and organizations, administrations for production and manufacturing completion, timber transfer and timber rafting enterprises, and other associations, enterprises, and organizations, which carry out the delivery of products to consumers.

The accounting of the fulfillment of tasks and obligations with respect to deliveries of products is effected in regard to the quantity, deadlines, and assortment stipulated in the contract, in regard to the entire products list of the production being turned out, including the nomenclature of the USSR Council of Ministers, USSR Gosplan, the USSR State Committee for Material and Technical Supply, the ministries and departments, the Councils of Ministers of the union republics, regardless of the departmental subordination of the supplier association, enterprises and organizations, as well as regardless of whether this production is designated for inter-industry or intra-industry use.

The ministries and departments may apply the provisions of the present instruction to other types of activity being carried out by associations, enterprises and organizations within their jurisdiction on the basis of the contracts that are concluded.

3. For the determination of the level of the fulfillment of tasks and obligations in regard to deliveries of production in accordance with concluded contracts, the indicator of "Volume of Sale of Production in Wholesale Prices of Enterprises, Accepted in the Plan, With Regard to the Fulfillment of Obligations in Regard to Deliveries" is established in statistical accounting.

For associations and enterprises of the system of the USSR Ministry of Light Industry, the determination of the level of the fulfillment of obligations with respect to deliveries is effected on the basis of the indicator of "Volume of Delivery of Products (Production) in Contract Prices", which is independently established by the associations and enterprises, proceeding from the concluded contracts for the delivery of products (production).

The production associations and enterprises include in the volume of the production being sold the cost of the work in regard to the assimilation, in production, of products of new technology, which is paid at the expense of the means allotted to them from the unified fund for the development of science

and technology, or at the expense of means from the fund for the development of production, science and technology (in some sectors of industry--at the expense of means from the fund for assimilation of new technology). The non-fulfillment of the plan-stipulated tasks in regard to the assimilation, in production, of new technology, which are financed at the expense of the indicated means, is taken into account in the assessment of the fulfillment, by production associations and enterprises, of the plan for the volume of sale of production with regard to the fulfillment of delivery obligations. The procedure for including, in the volume of production that is sold, the cost of the work in regard to the assimilation, in production, of new technology, which is being paid for at the expense of means from the unified fund for the development of science and technology, and the procedure for the accounting of the fulfillment of this work, are established by the letter of the USSR Gosplan, the USSR State Committee for Science and Technology, the USSR Ministry of Finance, and the USSR Statistical Administration, dated 30 December 1985 No SA-58-D.

4. The data on the volume of the sale of production with regard to the fulfillment of obligations with respect to deliveries are given by the production associations and enterprises of industry in the reports on the monthly form No 1-p (routine) "Report of the Production Association (Combine) or Industrial Enterprise on the Output of Production and the Number of Industrial-Production Personnel and Workers," on the form No 1-p (quarterly) and 1-p (annual) "Report of the Production Association (Combine) or Industrial Enterprise on the Fulfillment of the Production Plan"--in line with code 807.

The indicated data are presented:

For every independent enterprise that is not included in the composition of the production association;

for the production association as a whole;

for every independent enterprise that is subordinated to the production association, if the enterprise concludes contracts with consumers and carries out deliveries of production to them in its name.

For enterprises that are included in the composition of the production associations as production units and conclude agreements with consumers in the name of the production associations, the data in line with code 807 are not filled in, but the accounting of the fulfillment, by them, of their obligations with respect to deliveries is conducted for the association as a whole.

The supply-marketing and wholesale trade associations, enterprises and organizations present the data on the fulfillment of tasks and obligations with respect to production deliveries in accordance with the procedure established respectively by the USSR State Committee for Material and Technical Supply, the USSR State Agroindustrial Committee and the USSR Ministry of Trade by agreement with the USSR Central Statistical Administration in conformity with the requirements of the present Instruction.

5. The volume of the sale of production with regard to the fulfillment of delivery obligations is determined through the subtraction of the value of the undersupplied production from the volume of its sale stipulated by the plan for the corresponding accounting period from the beginning of the year, regardless of the actual fulfillment of the plan for the general volume of the realization of production.

The percentage of plan fulfillment in regard to the realization of the sale of production with regard to the fulfillment of delivery obligations for the accounting period is determined as the ratio of the volume of the sale of production with regard to the fulfillment of production deliveries to the volume of sales stipulated by the plan for the corresponding period from the beginning of the year, multiplied by 100.

If the contract stipulates the quarterly term of delivery of production (without indication of the intra-quarterly deadlines), the determination of the results of the fulfillment of delivery obligations according to this contract is effected on the basis of the results of the last month of the given quarter.

In this case, in the reports on the fulfillment of the production plan for the first two months of the quarter, the data on the volume of the sale of production with regard to the fulfillment of delivery obligations are cited at the level of the volume of sale stipulated by the plan for the corresponding period, provided that in the previous quarter the delivery obligations were fulfilled fully.

If not all delivery obligations were fulfilled in the preceding quarter, then, in the determination of the data on the volume of the sale of production with regard to the fulfillment of delivery obligations for the first month of the accounting quarter, the value of the undersupplied production of the preceding quarter is subtracted from the volume of the sale of production stipulated by the plan for the corresponding period (if the underdelivery was not made up in the accounting month).

The data for the second month of the quarter are determined analogously.

6. The value of the undersupplied production for the calculation of the indicator of "Volume of the Sale of Production in Wholesale Prices of Enterprises, Accepted in the Plan, With Regard to the Fulfillment of Obligations in Regard to Deliveries" is determined:

For production associations and enterprises of industry--proceeding from the effective wholesale prices of the enterprise that have been accepted in the plan, and for associations and enterprises of the system of the USSR Ministry of Light Industry--proceeding from the prices accepted for the calculation of the volume of deliveries of goods (production) on the basis of the concluded contracts;

for supply-marketing and wholesale trade associations, enterprises and organizations--proceeding from the prices, on the basis of which calculations for production are effected with consumers (for products whose sales plan is established in retail prices--with the deduction of the turnover tax and the trade

discount), and for corresponding associations, enterprises and organizations of the USSR Gosagroprom system--proceeding from the prices established for the mutual calculations with the industrial enterprises.

In those cases, where in accordance with the legislation that is in force, the sanctions for the breach of tasks and obligations with respect to production deliveries are determined proceeding from average prices for production, the value of undersupplied production may be calculated on the basis of the indicated prices.

In those cases where the assortment of production is not stipulated in the agreement, the value of the undersupplied production is calculated on the basis of the average group prices accepted in the plan.

7. In the determination of the volume of production sales with regard to the fulfillment of delivery tasks and obligations, it is necessary to be guided by the following:

- a) The fulfillment of production delivery tasks and obligations is determined in accordance with the procedure and the conditions stipulated by the Statute on Deliveries of Products Intended for Production and Technical Use, the Statute on Deliveries of Consumer Goods, the Basic Conditions for the Delivery of Products for Military Organizations, special conditions for the delivery of some types of products, and other normative acts regulating the relations in regard to the deliveries of products and goods, the assimilation, in production, of products of new technology, and the fulfillment of repair work;
- b) the dimensions of the undersupplied products for the month, quarter or other period under review from the beginning of the year are determined by the growing total as per the last date of the corresponding accounting period (with regard to the undersupply in the preceding period and the making up of undersupplied products in the subsequent periods) in terms of quantity, deadlines, and assortment for every concluded contract;
- c) products intended for production and technical use of one description, which are supplied instead of products of another description without the preliminary written agreement of the consumer (purchaser) or when the consumer (purchaser) accepted these products in view of the impossibility of returning them to the manufacturer, are reflected in the report on the fulfillment of the production plan as undersupplied before the end of the quarter under review. Undersupplied products in terms of assortment, in place of which other products were accepted by the consumer (purchaser), do not have to be made up, and in the periods following the quarter under review are not taken into account in the volume of undersupply;
- d) associations and enterprises of industry that have contract relations with supply-marketing, wholesale trade, and other buyer associations, enterprises and organizations, which are not purchasers of the products and deliver products to recipients in accordance with dispatch orders, issued by the buyer associations, enterprises and organizations, determine the scale of the undersupply proceeding from the quantity, deadlines and assortment of the products, stipulated for delivery to every recipient taken separately in accordance with the

issued order, and not as a whole for the contract concluded with the purchaser;

e) if in the preceding year undersupply of products took place which, in accordance with legislation has to be made up in the current year (supply of products for export and in other cases), then, in the determination of the volume of the sale of products with regard to the fulfillment of delivery obligations in the year under review, the value of the products that were undersupplied in the preceding year and must be made up is subtracted (in the effective prices of the year under review) from the volume of the sale of products stipulated by the plan for the corresponding period, in which the undersupply for the preceding year was not made up;

f) products, regardless of whether they were shipped (supplied) in the current or in the preceding year in accordance with a concluded contract, which are subsequently considered as not meeting the All-Union State Standards (GOST) or technical conditions, are regarded as underdelivered until their replacement (if the consumer did not refuse replacement) or the elimination of shortcomings, beginning with the report for the period when the fact of their non-conformity to GOST (technical conditions) was recognized by the supplier, by the organs of arbitration, or when an instruction of the organs of state supervision of the USSR State Committee for Standards has been received;

g) in case of the exposure, by a purchaser (recipient), of the fact of shortage in the batch of the products received by comparison with the volumes indicated in the shipping documents of the supplier, the missing products are considered as undersupplied until the supplier has made up for them, beginning with the report for the period in which the fact of the shortage was established in accordance with established procedure by decision of a court or an organ of arbitration, by an act of the corresponding control organ, or is recognized by the supplier (shipper);

h) associations and enterprise manufacturers conclude contracts for the delivery of products in the quantity stipulated in the plan documents issued by them in accordance with established procedure. In those cases where contracts were concluded for the delivery of products in a smaller quantity than stipulated by these documents (in connection with the non-distribution of material resources by the intermediate organizations supplying materials, the buyers' refusals of the products allotted to them, etc.), the associations and enterprises are obligated, no later than 15 days prior to the beginning of the quarter of the delivery, to report this to the organ which issued the plan documents for the delivery of products, for the solution of the question of the additional load of production and the delivery of orders to other purchasers, if there is a demand for these products, or the solution of the question of their withdrawal from production and their replacement with products that are in demand. The organ that has issued the plan document for the supply of products examines these questions jointly with the association or enterprise manufacturer (in case of necessity--with the participation of other interested organs), as a rule, prior to the beginning of the period of delivery stipulated by the plan.

In case of the failure, by associations and enterprise manufacturers to present the indicated report, as well as in the case of the evasion of contract

conclusion, the products, for the supply of which contracts were not concluded, are regarded as undersupplied.

8. As the date (day) of the fulfillment of obligations for the supply of products is considered:

In the case of the dispatch of products to a recipient in another town--the day of handing over the products to an organ of transportation or communication, which is determined by the date on the transportation document or the document of the communications organ;

in case of the delivery of the products at the warehouse of the recipient or supplier (manufacturer)--the date of the delivery and receiving documents or the receipt of the products.

If by chance another procedure for the determination of the date of the fulfillment of the tasks and obligations with respect to production deliveries is stipulated by the corresponding normative acts, the guidelines of these normative acts must be followed.

9. Products are not considered as undersupply in the period under review when:

a) Changes, in particular with respect to the quantity, deadlines and assortment of the products subject to the delivery, are introduced in the contracts that have been concluded;

b) the consumer (purchaser) has refused the making up of products that were undersupplied in the preceding period;

c) in accordance with the contract, the allotment (delivery) of products to the purchaser (consumer) is effected at his request, and such a request was not made;

d) the consumer (purchaser) refused to receive the dispatched (delivered) products or did not select them from the warehouse of the supplier (manufacturer) within the established deadline, if the selection of the products by the purchaser was stipulated by the contract and if the supplier had the products corresponding to the established requirements available.

If, in accordance with paragraph 38 of the Statute on Deliveries of Products Intended for Production and Technical Use and paragraph 33 of the Statute on Deliveries of Consumer Goods, the delivery of products to the warehouse of the consumer (purchaser) is stipulated by the contract, then, in the absence of the appropriate notification of the consumer (purchaser), a note in the commodity-transportation invoice or documentation put together by the supplier can serve as proof of his refusal to receive the products that were delivered in accordance with the conditions of the contract.

When the selection of products by the consumer (purchaser) is stipulated by the contract, undersupply of products is not taken into account if the consumer (purchaser) informed the supplier about his refusal of the selection or if he

did not present himself to receive the products within the deadline stipulated by the contract. An exception to this rule are cases where the failure to select the products took place for reasons depending on the supplier (for example, the tardy notification of the readiness of the products for delivery, if the sending of such a notification is stipulated in the contract);

e) the material-technical supply organizations, which carry out the functions with which they have been charged in accordance with paragraph 31 of the Statute on Deliveries of Products Intended for Production and Technical Use, in regard to the control over the state of the reserves of material resources in associations and enterprises, in institutions and organizations, in the presence of above-norm or excessive production, reduce the quantity of the products being supplied or change the deadline for their delivery;

f) in accordance with the legislation in force, the supplier has the right to postpone the deadline for delivery.

Those cases include, in particular:

Delay of the presentation of a letter of credit by a payer (purchaser) of another town, who has been transferred to this form of settlement, or the failure to present a payment document about the payment by a payer (purchaser) of the same town, who has been transferred to preliminary payment for products;

the non-delivery, by associations, enterprises, and purchase organizations, or their failure to present bills of receipts for the delivery of:

Used-up [otrabotannyye] bearings, in exchange for which the delivery (distribution), within the limits of the funds allotted to them, of new or restored bearings at the rate of one for one is carried out (Instruction of the USSR State Committee for Material and Technical Supply and the USSR Ministry of the Automotive Industry of 21 December 1985); used-up and worn-out accumulators and storage batteries, in exchange for which the delivery (distribution) of new accumulators and storage batteries is carried out (Decree of USSR Gosplan and the USSR State Committee for Material and Technical Supply of 14 December 1984, No 328/139 and of 31 December 1981 No 280/120), as well as other products and materials, if this is stipulated by legislation;

the late transfer, by the purchaser, of funds, technical documents, materials in kind, technical equipment, etc., if such transfer is stipulated by the special conditions of the delivery of some types of products or by the contracts, as well as the appropriate postponement of the deadline for delivery in the presence of the non-fulfillment of this requirement.

10. The ministries and departments guarantee the conduct, by the associations, enterprises, and organizations within their jurisdiction, of the reliable accounting of the fulfillment of their tasks and obligations with respect to deliveries of products in the quantity, by the deadline, and in the assortment in accordance with the concluded contracts, and carry out systematic control over the presentation of accounts in regard to the indicator of the volume of sale of production with regard to the fulfillment of their obligations in regard to deliveries within the established deadlines. The procedure and forms for the

for the conduct, by associations, enterprises and organizations, of effective accounting of the fulfillment of production delivery obligations is established by the ministries and departments.

In case of necessity, the ministries and departments, on the basis of the present Instruction and by agreement with the USSR Gosplan, the USSR State Committee for Material and Technical Supply, and the USSR Central Statistical Administration, develop industrial (departmental) instructions concerning the procedure for the accounting of the fulfillment of tasks and obligations with respect to deliveries of products with regard to the specific characteristics of the industry.

11. The operation of the present Instruction does not extend to:

a) Specialized enterprises of local industry, which utilize the labor of home-workers, pensioners by reason of age and invalids, whose proportion in the total number of personnel accounts for no less than 30 percent, art businesses, as well as other enterprises of local industry to the extent to which they produce toys, Christmas-tree decorations, and souvenirs;

b) enterprises of societies of the blind, the deaf and the deaf mutes.

The enumeration of the indicated enterprises is established by the ispolkoms of the local Soviets of People's Deputies;

c) the enterprises and organizations in the part of the output of repair work, with the exception of specialized enterprises of industry, which carry out work on the repair of machines, equipment and other industrial production. The enumeration of the specialized repair enterprises of industry is established by the appropriate ministries and departments.

12. The present Instruction is put into effect as of 1 January 1987.

13. In connection with the adoption of the present Instruction, the following are recognized as being no longer in force as of 1 January 1987:

Instruction on the Procedure for the Accounting of the Fulfillment of Tasks and Obligations in Regard to Deliveries of Products and Goods in Accordance With Concluded Contracts in the Assessment of the Activity and Economic Stimulation of Production, Supply-Marketing, and Trade Organizations, approved by USSR Gosplan, the USSR State Committee for Material and Technical Supply, the USSR State Committee for Labor and Social Problems, the USSR Ministry of Finance, the USSR Statistical Administration, and the AUCCTU, on 24 August 1981 No NR-27-D;

the letter of USSR Gosplan, the USSR State Committee for Material and Technical Supply, the USSR State Committee for Labor and Social Problems, the USSR Ministry of Finance, the USSR Central Statistical Administration, and the AUCCTU of 8 October 1979 No AB-25-D;

the letter of USSR Gosplan, the USSR State Committee for Material and Technical Supply, the USSR State Committee for Labor and Social Problems, the USSR Ministry of Finance, the USSR Central Statistical Administration, and the AUCCTU of 7 June 1982 No AB-26-D.

## INVESTMENT, PRICES, BUDGET, FINANCE

### GOSPLAN ECONOMIST ON FIXED CAPITAL REPLACEMENT OPTIMIZATION

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 87 pp 17-18

[Article by A. Malygin, department chief, NIEI [Scientific-Research Institute of Economics, under USSR Gosplan, doctor of economic sciences, under rubric "Restructuring the Economic Mechanism": "Optimizing the Reproduction of Fixes Assets"; first paragraph is source introduction]

[Text] The year 1987 that has begun, which has been distinguished by the broad application of the new management methods, is of great importance in developing the national economy and fulfilling the five-year plan as a whole. The indicators that have been planned for this year correspond to the assignments of the five-year plan and bring the economy to the average annual growth rates that are included in it.

One of the basic tasks of the economic and social development of the national economy which were planned for 1987 and the 12th Five-Year Plan is the acceleration of the renewing of fixed production assets, primarily by means of the more rapid replacement of relatively ineffective equipment with progressive, highly-productive equipment. As early as this year the replacement of the worn-out and obsolescent fixed assets at operating enterprises in industry will increase by almost one-third, and in the 12th Five-Year Plan it is planned to increase the coefficient of withdrawal of obsolete machinery and equipment from 3.2 percent to 6.2 percent a year, and simultaneously to increase the renovation of the output of machine building from 3.1 percent in 1985 to 13 percent in 1990. Capital investments in machine building during this period are to be increased by a factor of 1.8 as compared with the past five-year period.

The acceleration of the renewing of fixed assets is a complicated process of forming the most effective set of means of labor, in which one observes the interaction of the most important factors of economic development: technical progress, the existing production potential, planning, establishment of norms, and the consideration of the influence exerted by all the production factors.

We are considering first of all the problems of forming the funds for replacing the fixed assets that are being withdrawn, and of accelerating the reproduction process. But this is only one aspect of the situation. It is important to define clearly the conditions and effectiveness of the renovation. There is just one approach here -- in every specific instance the need to replace the fixed assets must be substantiated economically, that is, necessitated by a sharp rise in labor productivity, a considerable saving of

resources, and the production of output that is on a par with the worldwide level.

### Intensifying the Reproduction Processes

A factor that is becoming, to an increasingly persistent extent, the determining direction for building up production potential at the present time is the increase in the scale of application of the latest tools of labor and technological processes that are based on the use of the achievements of science and technology. It is planned to achieve more than two-thirds of the increase in the productivity of social labor in the current five-year period by means of the application of new types of technology and technological processes.

The acceleration of the qualitative transformation of the means of labor depends not only upon the resolution of scientific-technical problems, but also the economic-organizational ones, the improvement of the planning of reproduction of fixed assets, the formation of the financial resources necessary for that purpose, and the use of capital investments.

The system of planning, reporting, and evaluating economic activity in past years was aimed primarily at the quantitative growth of fixed assets. Their volumes frequently increased at the expense of the means of labor that had been created on an old technical base, and considerably more rapidly than was necessary for the slackening growth in the number of persons employed. The capital-labor ratio in industry in 1971-1985 increased at a rate that was almost 1.5 times faster than labor productivity. The chiefly extensive nature of the reproduction of fixed assets led to a lack of balance between the labor and material factors of production. And that found reflection in the underuse of the production capacities and in the increase in the funds-intensity in production, that is, a reduction in the yield on capital.

Average Annual Growth Rates of Produced National Income and Fixed Production Assets (in percentages)

Indicators	1971-1975	1976-1980	1981-1985
Produced national income	5.7	4.3	3.6
Fixed production assets in the national economy	8.7	7.4	6.4
Return on investment (produced national income per ruble of fixed production assets)	-2.7	-3.1	-2.9

As can be seen from the figures in the table, the reduction in return on investment continued through the entire 15-year period. In 1985, as compared with the 1970 level, it dropped by 36 percent.

During the next 15 years it is planned to introduce a turning point in the dynamics of this indicator: at the first stage, in the mid-1990's, to stabilize the return on investment, and subsequently to assure its growth.

Under conditions of the conversion of the economy to the chiefly intensive path of development, the renovation of fixed assets is nothing else but the introduction of new technological processes and new technology to replace the traditional ones. The purposeful improvement of the technical base in the process of intensification creates the real prerequisites for the rise in the technical level of production, its effectiveness, the increase in the volumes of output and the improvement of the quality of output with a lesser quantity of expenditures of combined labor.

The renovation of fixed production assets by means of labor that were created on a new technical basis and in conformity with the optimal service life of the assets is a determining characteristic and material base of the intensive type of expanded reproduction, and a necessary condition for optimizing the entire reproduction process.

The most difficult task of renovating the fixed assets consists in finding, in every branch, at every enterprise, the optimal extent of replacement of means of labor that satisfies the time and resource limitations.

The assets can be renewed with the maximum rapidity in those instances when the new machinery and equipment are channeled primarily into existing production to replace the machinery and equipment that have outlived their usefulness. And it is only after the existing production has been saturated that the remaining machinery and equipment being produced should be channeled into new construction and the expansion of the existing pool. When one uses this sequence of distributing means of labor, the renovation will become chiefly intensive, because it will be able to promote the reduction in the number of persons employed in material production and the increase in the workers' labor productivity. The low concentration of capital investments in the various construction sites, prolonged periods for constructing the objects, and large volumes of uncompleted construction also promote the viability of the extensive use of capital investment and worsen the indicators of reproduction of fixed assets. The task consists in guaranteeing, as early as the process of planning, a normative mode for the reproduction of fixed assets and production capacities, that is, in building in conformity with the duration norms, and carrying out the renovation of fixed assets with a consideration of their normative service life. Then the reproduction process will develop in conformity with the achievements of technical progress.

The normative service life of means of labor is determined with a consideration of their actual wear and tear and their obsolescence, and norms for the duration of construction are determined with a considerable of the maximum possible technical equipping and advanced organization of labor. In order to accelerate the reproduction process and overcome the shortcomings in this matter, a factor of great importance is the implementation of the measures stipulated by the decree of the CPSU Central Committee and the USSR Council of Ministers on improving administration and the economic mechanism in

construction, as well as the decisions that have been enacted concerning the development of new depreciation norms.

A means for reorienting capital investments into existing production today is a reproduction structure of capital investments that corresponds to the requirements of the normative renovation of fixed assets. During the present five-year period alone it is planned to channel as much as 50 percent of the capital investments into remodeling and technical re-equipping. In the long run this share is supposed to grow and, according to our estimates, can reach 78-80 percent.

#### Intensive Renovation

In economic practice, when there is a change in the structure of capital investments it is important to establish in a well-substantiated manner the volumes of possible renovation of the fixed assets. These volumes are determined by the scale of the production of qualitatively new means of labor and by the speed of the carrying out of construction operations. Usually the renovation is measured by the share of the activation of fixed assets during the particular period in the overall volume of fixed assets as of the end of that period. In 1985 the renovation of assets in industry constituted 6.9 percent.

As we can see, this gauge that is generally used nowadays reflects the overall renovation of assets, without differentiating it by nature into intensive and extensive. The value of the intensive renovation is usually characterized by the coefficient that is computed as the relationship of the volume of activation of fixed assets that goes into the replacement of the means of labor that are being withdrawn, to the overall volume of activation. In other words, it is the share of withdrawal in the entire activation of assets during a particular period. By 1985 this coefficient reached approximately 20 percent in industry.

But with this formal definition of the intensive part of renovation, no consideration is taken of the quality either of the means of labor that are being withdrawn or the new machinery and equipment that are being channeled into the replace of those that are being withdrawn. And yet, during planning, it is necessary to establish the amount and methods of intensive renovation specifically with a consideration of the technical level of the old and new means of labor. In order to resolve this task, it is necessary to have reliable statistical information concerning the quality of the available technical base and the elements for renovating it.

The inventory that was taken of the fixed production assets as of 1 April 1986, after the summing up of the results, is supposed to provide this information. However, even on the basis of the results of the inventory that was made, it will scarcely be possible, with the aid of branch consolidated computations, to determine satisfactorily the size of the truly intensive renovation of the assets by means of the latest machinery, equipment, and entire groups of means of labor that constitute the production capacities of the enterprises.

Questions of the intensive renovation of assets cannot be resolved without the participation of the enterprises themselves. One needs concrete computations, but not only with the aid of individual mass inventory-takings. It is important here to have constant work in certifying work places. Much depends upon the quality of the analysis when carrying out preparatory-design projects, and when preparing recommendations for designing and technically re-equipping enterprises. One must have a study of the specific elements of production, and a comparison of them with the available latest analogues that can be channeled into replacing the existing ones. And it is better to wait a little while, rather than to carry out the formal replacement of the obsolescent means of labor with items of the same kind which, although they are new, are obsolescent.

There is just one requirement for all forms of renovation of assets: the increase in the productivity of the machinery and equipment and the capacity of the enterprises being created must substantially outdistance the increase in their cost. For every project being carried out to create new capacities, or to remodel and re-equip enterprises, this requirement becomes a standard tool using by the experts for evaluating the desirability. What is needed is not just any renovation of production, but only that which is accompanied by the introduction of the most advanced technology, and provides the highest economic and social benefit.

The service life of the means of labor, their wear and tear, their withdrawal, and the activation and growth rates of fixed assets are functionally linked in the reproduction process. The accumulated volume of fixed assets as of a particular moment of time is the result of the activations of the constantly created means of labor, their service life, and the size of the withdrawals that are occurring. The need for assets, which is reflected in the size of their activation, and the service life therefore act objectively as the controlling parameters for the accumulation of fixed assets. The substantiation of the need for means of labor, and the duration of their service life, is the chief link in the entire concept of the renovation of fixed assets.

A factor of fundamental importance in the reproduction of fixed assets is the conformity of the actual service life to the normative one, which guarantees the unity of the movement of the physical form and the value form of the means of labor. Both the normative service life and the actual service life must constantly evolve from the achievements of technical progress. The fact of the matter is that the duration of the service life of fixed assets is limited not only to their physical wear and tear, but also their obsolescence. It is necessary to take this into consideration and to construct a system of depreciation deductions and to form the process of renovation of assets. When there is an equality of the average service life of the means of labor and the periods for turnover in their value (the depreciation periods or the normative service life), the conditions are created for preserving the entire advanced value of the fixed assets, and there is a limitation of the losses to the national economy that are caused by the wear and tear and the obsolescence of the means of labor.

## Re-examination of the Norms

In the process of the work being done at the present time in the ministries and departments to prepare new norms for depreciation deductions, the service life of machinery and equipment is refined, with a consideration of their physical wear and tear and their obsolescence.

In 1985 the depreciation deductions for the complete restoration of assets constituted 62.6 billion rubles. With the growth rates of 6-8 percent that have been achieved in the past decade for the fixed production assets and the actual average service life of 25-27 years for assets being withdrawn, the share of depreciation funds in the gross capital investments for production purposes constitutes 40-45 percent. This substantial permanent source of financing of capital investments stabilizes and strengthens the planned nature of the entire reproduction process.

However, there is a need for constant measures to put the system of depreciation deductions into conformity with the achievements of technical progress, the consideration of which is carried out with the aid of the service life of the fixed assets. A tool for that evaluation is needed. For that purpose, the actual service life of the means of labor that are being withdrawn can be compared with the depreciation periods. These observations, in our opinion, must become an inseparable part of statistical accounting and bookkeeping at enterprises, associations, ministries, and departments. On the basis of the consideration of the actual and normative service life of the fixed assets it would be possible to prepare recommendations for changing the depreciation norms and, with the approval of the five-year plan, to put them into practice.

In the 12th Five-Year Plan the size of the withdrawal will be doubled. The currently effective depreciation norms cannot guarantee the replacement of that withdrawal and therefore are being re-examined. The new depreciation norms will be introduced as of 1 January 1988. The reduction of the service life of machinery and equipment and the increase of their withdrawal in our industry are dictated by the need to renew the means of labor with the purpose of increasing the productivity of all the fixed assets.

The amount of reduction of the service life of machinery and equipment and the acceleration of the renovation of fixed assets depend upon the possibilities of machine building, the availability of new progressive means of labor being created on a new technical level, and on the duration of construction.

The periods of time required for creating production capacities today are almost twice the normative duration of construction. If they are reduced to one-third to one-half of what they are today, then, all other conditions being equal, there will be a corresponding acceleration in the growth of the total productivity of the machinery and equipment being operated. As this task is resolved, computations have shown us, there is a slowing down of the growth of the assets-intensity of output, with a subsequent stabilization and reduction of its level.

### Use of Depreciation Funds

In the current five-year plan, the indicators of the reproduction of fixed assets will be considerably improved. Thus, the coefficient of withdrawal will reach 3-3.5 percent, and the coefficient of intensive renovation, according to our computations, will rise to 37-43 percent. The growth of fixed assets for the national economy as a whole will be approximately 6 percent. The reduction of return on investment is slowing down.

The amounts of the annual depreciation deductions considerably exceed the value of the assets being withdrawn and the expenses to replace them. The equality of the withdrawal and the depreciation funds can occur only with simple reproduction. But with expanded reproduction there develops a definite correlation between the withdrawal and the depreciation amounts, which correlation depends upon the service life of the assets and their growth rates.

With assets growth rates of 6 percent and withdrawal of 3.5 percent -- to which a service life of 17-18 years for the total aggregate of funds, and a service life of 11-12 years for the active part, correspond -- one can channel into the replacement of withdrawal from depreciation deductions (for renovation) no more than 70-72 percent. The rest of the depreciation funds can be used for expanded reproduction, that is, for new construction. Approximately the same correlations in the areas of expenditure of depreciation funds are forming during the current five-year plan. In the long run, with an increase in the assets growth rates, this share decreases. Thus, with rates of 7-8 percent and the same service life, it drops to 48-50 percent.

In order to provide with the necessary resources the capital investments for the two-fold increase planned for 1990 for the withdrawal of fixed assets, the currently effective norms for depreciation for renovation purposes should, in our opinion, in the process of their re-examination, be increased on an average of 20-22 percent. Moreover, the overall increase should basically be carried out at the expense of the active part of the fixed assets as a result of the substantial reduction of the service life of the machinery and equipment, which will help to avoid excessive expenditures for capital repair. According to preliminary computations, the average norm for the capital repair of the active part of the fixed assets could be reduced by 15-18 percent.

### Development of Technical Plans

The change in the mode of the reproduction process with the purpose of accelerating the renovation of fixed assets can be carried out only in close coordination with material support. The doubling of the withdrawal of fixed assets, with their growth rate of 6 percent, becomes possible, as has been shown by computation, when there is an increase in the volumes of production of means of labor during the five-year period by a factor of 1.4-1.5. As is well known, the volume of output of machine building and metal processing will increase during the five-year plan by a factor of 1.43, and this will create the necessary material prerequisites for the technical re-equipping of production.

It is important to coordinate the increase in the withdrawal of fixed assets with the resources of capital investments in every link of the national economy. Increasing volumes of capital investments are being channeled into the replacement of the planned withdrawal. Technical re-equipping, with the existing large construction backlog, is no easy task. The fundamental reorientation of capital investments in existing production requires careful preparation. Before re-equipping the enterprises, it is absolutely mandatory to carry out exploratory operations and to prepare well thought-out technical-economic substantiations and construction-planning decisions for the technical re-equipping and remodeling.

Analysis indicates that the effective use of capital investments for the renovation of existing production is hindered by the insufficient substantiation of the decisions being made. In many instances, the plans for technical re-equipping are not being developed. A study carried out in 1985 by USSR TsSU [Central Statistics Administration] revealed that only 20.9 percent of the enterprises surveyed were carrying out technical re-equipping on the basis of completed planning-estimate documentation containing technical-economic substantiations and computations.

Preplanning and planning documentation for technical re-equipping and remodeling of enterprises, and the plans for the organization of operations, must take into consideration -- in addition to the technical and economic decisions -- the intraproduction, branch, and interbranch ties involving the providing of labor and material resources to the enterprises that are to be re-equipped, and involving the sale of finished output.

It is desirable to include in the planning documentation information about the quantity, cost, and technical data pertaining to the equipment to be withdrawn and the equipment to be newly installed, and about the old and new technological processes. This will make it possible subsequently to prepare those master lists for remodeling and technical re-equipping which will be able to contain all the necessary information for the planning of capital investments, construction, material-technical supply, and the timely preparation of production orders for the equipment.

The effectiveness of the technical re-equipping and remodeling of existing enterprises depends upon the procedure and methods of conducting those operations. The construction organizations are not always capable of fulfilling them at the existing enterprises. What is needed here are specialized contractual construction-and-installation organizations. It is desirable to carry out the less complicated operations, as has been attested to by the experience of the advanced enterprises, by the in-house method.

Only complete preparation on a planned basis can guarantee the thorough and effective technical re-equipping of existing production.

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## AGRO-ECONOMICS, POLICY, ORGANIZATION

### PARTY OFFICIAL ASSESSES KUBAN COMBINE RESULTS

Moscow PARTIYNAYA ZHIZN in Russian No 1, Jan 87 pp 22-25

[Article by A. Maslov, first secretary of the Timashevskiy Raykom of the CPSU: "The 'Kuban' Agroindustrial Combine--A New Type of Farm"; first paragraph is excerpt]

[Text] The good performance of the "Kuban" Agroindustrial Combine was noted at the session of the Politburo of the CPSU Central Committee held 2 October 1986, and proposals to set up four more such combines in RSFSR, the Ukraine, and Belorussia were approved. In the future the new structures will become more widespread in other regions of the country as well. Their principal task is to augment production, procurements, processing, and sales of agricultural products on the basis of cost accounting (khozraschet) and the pay-as-you-go principle. In this respect the workers in Timashevskiy Rayon, where the economic experiment began in 1984 when the "Kuban" Combine was created, have gained fresh constructive experience, as is related below.

The "Kuban" APK was set up as a single enterprise to "cover" eight kolkhozes, six sovkhozes, several interfarm enterprises, the processing branches which serve them, and staff departments. With its sizable land area (the rayon has 110,000 hectares of plowland alone), the APK produces hundreds of thousands of tons of grain and sugar beets and a large amount of fruit, vegetables, meat, and milk. Thus the entire volume of this diverse output needs not only to be grown and harvested promptly, as it was previously, but also preserved, processed, and delivered in the best condition to the shelves of sales outlets and sold to customers. In other words, the "Kuban" APK was created as a single boss that would have full authority and consequently bear full responsibility for conducting the production process and sales throughout the entire lengthy and complicated processing chain along the route: "field, farm, processing enterprise, store."

In all, the combine's components include 56 agricultural, processing, trade, and other enterprises and organizations under 14 union and republic departments located in Timashevskiy and other rayons of Krasnodar Kray. One of the combine's duties is to supply foodstuffs to the population of the rayon, the central city of the kray, and also vacationers on the Black Sea coast. A new branch--trade--has been created in the APK and has been developing successfully. Food stores have been opened in many of the kray's settlements. Thus

produce--fruit, vegetables, meat, dairy products and sausages, and canned goods in an unbroken flow represent a commercial bridge that has been built between Timashevskiy and Krasnodar and the Black Sea resorts.

The combine has been endowed with broad powers. It cannot only produce, but also purchase surpluses of produce from individuals. It is allowed to set prices on goods which it sells in the network of its own stores and also to independently plan and finance development of the various branches of its activity as a single entity. The enterprises which have become components of the combine retain their economic independence and status as juridical persons. The economic relationships among them are structured on the basis of interfarm cooperation and agroindustrial integration, the pay-as-you-go principle, and full cost accounting.

A period of vigorous restructuring, of breaking down the old operating forms that had become established, began in the first days after organization of the "Kuban" APK and is continuing up to the present time. This pertains above all to the reorganization of a number of enterprises. For instance, the former rayon association "Selkhoztekhnika" has been turned into a production association for material and technical supply and equipment repair. Other components on the combine's balance sheet are associations for baked goods, agricultural chemical services, a motor transport enterprise, a construction trust operating on cost accounting, and a project planning and production engineering institute.

"Kubanagrosnab," a specialized branch in the system of USSR Gossnab, is concerned here with supplying the combine's enterprises with materials and equipment on the wholesale trade principle. For the first time in our practice a large finance and accounting center has been created within the APK; it has essentially taken over the functions of the rayon branch of Gosbank. One can well imagine the volume of settlement and accounting operations it conducts when the combine's sales turnover runs to several hundred million rubles. Just the profit of the rayon's kolkhozes and sovkhozes in 1986 amounted to 52.5 million rubles, at a 35-percent level of the profitability of production.

When the combine was set up, the personnel of the raykom apparatus was, of course, relieved of duties which did not properly belong to them. Before that matters had come to the point where raykom secretaries were performing the functions of virtual organizers of material and technical supply, they were allotting equipment, feed, and fertilizer among the sovkhozes and kolkhozes, and they were taking the place of specialists on strictly professional matters. This led to duplication of effort and unnecessary regimentation.

Now there is no need for petty interference. Business managers--chairmen of kolkhozes and directors of sovkhozes--personnel of the management staff of the "Kuban" Combine, take care of all current production, supply, and financial matters. A collective body, the presidium of the APK council, headed by the general director, provides overall guidance.

A number of primary party organizations have been formed--in the interfarm construction and assembly trust, in the mobile mechanized construction component, in the agrosnab, and in the combine's management component--in connection

with the structural transformations and creation of the combine's new subdivisions. In the APK as a whole there are more than 3,000 party members belonging to 35 primary organizations. Those located outside Timashevskiy Rayon belong to their respective rayen or city party organizations on the geographic principle. We provide party guidance here both through direct contacts with the respective regional party committees and also by means of individuals in the departments of the party committee of the kray specifically assigned to provide oversight.

There has also been some change in the organizational structure of the raykom staff. An economic department has been created from the industrial transport department and agricultural department. Its staff members work in close contact with the organizational department and propaganda department. Jointly they have organized comprehensive examinations of the work of the primary party organizations and are maintaining the closest contacts with them.

The secretaries and other responsible officials of the raykom have made it a rule to begin their workday with a visit to work collectives. During them they study the substantive aspects of the work being done by primary and shock party organizations and provide them practical assistance. Their attention is concentrated above all on working with people, on improving the production performance, on increasing output, on introducing economic methods of conducting business and full cost accounting, and on the improvement of technology. All the efforts of the collectives are aimed toward achieving the best possible end results. It is, of course, no simple matter for many workers of the APK to all at once give up the procedures that were previously in place and to change over to the new method. As a matter of fact differences of opinion do arise, and there have been objections to the decisions made. We will illustrate this with just one case.

Before the combine was formed the farms would ordinarily enlist motor transport from the cities, moreover in quite a substantial amount, during the period of the grain harvest. Yet was it possible to get by with its own transport? They calculated that they could. If all the trucks of the rayon's enterprises were brought together in a single pool at the combine and if the dispatching of the equipment was organized in a flexible way, the farms could do without any outside help at all.

There were some of the managers who did not like this idea: Just like that, they said, to take their precious transport and turn it over to someone else? The primary party organizations helped to make it clear to these managers that they were wrong: It is time to overcome narrowly departmental approaches, not just in declarations, but in fact to make the transition to the new economic policy and to collective effort. Some of the most stubborn had to be invited to personal conferences in the departments of the raykom and meetings of the bureau. This is now the second season that the combine has gotten along with its own resources, and hundreds of thousands of rubles have been saved as a consequence.

Impatience with shortcomings in the process of reorganization has become a way of life in the collectives. Here we are not trying evade the acute issues,

but openly and honestly to make it clear to people what kind of difficulties have been arising and what should be done to correct them. Openness in these matters is an indispensable element of socialist democracy and a pledge to instilling the true party and state attitude toward the effort.

Success has been gradual in overcoming the old psychology, people are arriving at mutual understanding, and the collectives are learning to feel the common interest as their own. In the summer, for example, the personnel of the baked products association voluntarily took on additional duties in the final finishing of the grain from the new harvest, bringing it up to higher levels of quality. In so doing they relieved the transport and the mechanized threshing floors of the kolkhozes and sovkhozes of excessive transshipments of grain. Once again a large benefit was achieved.

And here is another example when once again a successful way out was found from a difficult situation. At the very height of the season a large quantity of beets built up at the sugar mill; it was spoiling in the hot weather, and sugar was being lost. It seemed that there was no way to avoid the loss of the product, something which had repeatedly happened in the past. But the management of the combine made a bold decision, the only right one in the situation: to stop digging the beets in the fields. The field workers made available were temporarily assigned to help the sugar mill. The difficulties were quickly corrected in this way. When the strain fell off appreciably, the combine's farms completed the harvesting of the beets in a calmer atmosphere and without losses. The collectives of the kolkhozes and sovkhozes, the people in the village, and the personnel of the transport enterprise and sugar mill worked efficiently and smoothly and were well-organized. Together they were able to achieve the desired result--to increase the yield of sugar from every hectare.

In essence creation of "Kuban" made it necessary to restructure the entire production operation and economic procedures and confronted the CPSU raykom with a number of urgent problems of party leadership. The problem of instilling in people the new approach to performing the strenuous production plans of the 12th Five-Year Plan which the combine has outlined has moved into the foreground with all its severity. In conferences and in personal conversations with the managers and rank-and-file workers we never get tired repeating: "The 'Kuban' APK is a new type of farm. Others are to emulate it, and we must not allow any lag to occur with respect to any parameters."

In a meeting with the party aktiv of Krasnodar Kray, Comrade M.S. Gorbachev, general secretary of the CPSU Central Committee, when he learned about the work of the agroindustrial complex in Timashevskiy Rayon, approved the search being conducted here for internal potential, which is aimed at adding and adding substantially to the growth of agricultural output and to improvement of product quality in the new stage of intensive development of the Kuban. At the same time the most fervent support should be given to the emphasis on scientific-technical progress, intensive production processes, new methods of economic activity and management, above all by virtue of the collective contract and cost accounting.

In the 12th Five-Year Plan the APK has adopted a course toward intensification of grain production. The appropriate measures have been worked out. Primary party organizations have established strict oversight over their performance.

Definite costs were incurred in introducing intensive processes. For instance, machine operators in the second department of the "Timashevskiy" Sovkhoz were late going out to plant and do the disk harrowing in the spring. Indeed even in the field they did not distinguish themselves by particular fervor: there was idle time and bad work was done. Nor was the work monitored as it should have been. The temporary party group created there during the planting season proved to be ineffective. It existed only on paper. The sovkhoz's party committee took a position of nonintervention for some reason and stood aloof. Such cases, according to the information of the raykom, also occurred in brigades of other farms.

This time the decision was made to put pressure on the situation that has come about not through the distant relationship between "raykom and party committee," but to get to the heart of the matter right in the collective, on the spot. The secretaries and members of the raykom bureau visited the sovkhoz, talked to people, and then held an extramural meeting of the bureau right there in the second department's field. Some of the managers of neighboring farms were also invited to it. The party members spoke frankly and openly about the oversights and shortcomings, about the need to strengthen party influence in the work collectives.

The members of the bureau issued a resolute demand that the party committee and the sovkhoz's party organizations in the shops radically revamp their work style. Taking this into account, the bureau deemed it necessary not only to take notice of the facts, as had been the case previously, but to take more effective measures. A number of managers and rank-and-file workers who belonged to the party received severe party penalties. And they deserved it. In its decree the bureau fixed precise deadlines for correcting the shortcomings they had allowed.

Time has shown that they acted correctly. The effort for good grain has given people enthusiasm and has improved their disposition. And there have also been results. The 1986 yield was gratifying. For the first time in the rayon's history the field croppers harvested an average of 53.6 quintals per hectare of winter grain. More than 129,000 tons of strong and valuable varieties of wheat have poured into the state's granary, which is substantially more than was planned.

But here is what disturbs us. Some brigades and departments of farms harvested more than 70 quintals of grain per hectare, while others did not harvest even as much as 40 quintals. Why such a mixed pattern in the indicators? Apparently what we are seeing in all its glory is that same lack of conscience which is characterized by the common little word "maybe." Some worked for all they were worth, others halfheartedly and indifferently. Consequently, both in character-building and in selection of personnel the primary party organizations and CPSU raykom have fallen short. Yet this is a key issue and the very heart of party leadership.

The combine is gathering strength with ever greater confidence and is standing ever more firmly on its feet. By the end of the 12th Five-Year Plan, there is no doubt, it will attain its rated capacity, since now it is fulfilling its targets ahead of time. In 1986 plans were overfulfilled ahead of schedule for procurements of all types of products of animal husbandry. According to preliminary data, the rise of labor productivity and growth of production at the combine exceeded 7 percent. The volume of gross output of agriculture as a whole was 230 million rubles, or 6.9 percent more than the average annual level during the last 5-year planning period.

The raykom and primary party organization of the combine have strenuous and painstaking work ahead of them yet in order to bring together the collective numbering many thousands, to mobilize them to perform the tasks which have been set by the party. This combine, which is a new type of enterprise, has broad prospects for development and an important future.

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## AGRO-ECONOMICS, POLICY, ORGANIZATION

### AGROPROM PROGRESS UNDER NEW ECONOMIC MECHANISM VIEWED

#### Major Restructuring Problems

Moscow PRAVDA in Russian 2 Feb 87 p 2

[Article by V. Somov: "Act, Proprietor!"]

[Text] Economists speak a very precise language and one that is deprived of emotion. Figures, facts and problems. Such was the nature of the discussion we had in the Main Administration for Planning Social and Economic Development of USSR Gosagroprom [State Agro-Industrial Committee]. This discussion concerned the new economic mechanism and how it is being mastered in the various areas. The chief of one administration, A. Zavgorodniy, after putting down a paper, explained:

"The agroprom [agro-industrial committee] is similar to a large combined orchestra. It is naive to assume that it will strike each note accurately commencing with the very first bars. The instruments must first of all be tuned."

As is known, the organizational restructuring of the APK [agro-industrial complex] has been strengthened by means of large-scale economic measures. The purpose of such restructuring -- to ensure that each agroprom worker is interested in the final results of his work.

#### The Benefit of Instructions

But initially, as noted quite correctly, the orchestra must be tuned.

During a recent conference in the CPSU Central Committee, it was mentioned that the style and methods for administering the agrarian economy are changing radically. These changes are in such areas as planning and incentives, organization and wages, financing, extension of credits and others. The problems being addressed by the Main Administration for Planning of the country's Gosagroprom are basically new. The economists of former ministries never displayed such interest in the maintenance of order in their departmental branches. Each branch had its own managerial mechanism and as a rule it did not merge with the economies of allied workers. Today the

approach is different. Decisions are handed down in the interest of the entire agroprom.

What has been done in this regard?

"Substantial corrections have been introduced into investment policy" stated the chief of the Main Administration for Planning, A. Serkov, "In this manner, we are striving to eliminate serious disproportions in the development of the APK. It can be said that the volumes of capital investments in the processing branches have increased noticeably. Considerably more money is being allocated for the social needs of the rural areas."

This then is what production and processing, the logistical base, the social sphere and finances mean to some figures. It is obviously not easy to encompass all problems at once or to determine priorities. I addressed this question to A. Serkov.

"It is very difficult" agreed Aleksandr Fedorovich, "But it nevertheless is interesting! And this is particularly true in view of the fact that the personnel in the various areas are beginning to develop a liking for economics. It would seem that we should be distressed over the fact that we are now receiving more letters and telegrams concerning various discrepancies than we did in the past. At times, I take pleasure in these signals. The farm leaders and specialists are applying themselves to their work in a more thoughtful and efficient manner.

The new economic mechanism is based entirely upon cost accounting relationships. And many of those factors which restrained initiative and controlled the economic executives have been removed from the agroprom forever. Let us take finances. Earlier the agricultural specialists were confronted by an impregnable barrier of instructions and restrictions. Today finances are formed on a normative basis. This means that one's material well-being will be dependent upon the work he performs.

The implementation of many of the plans will commence this year in full force. But this is not meant to imply that the agroprom workers are sitting and waiting for 1 January to arrive. They are thoroughly tuning their "instruments." Within a brief period of time, the normative base for reorganizing the APK economy must be created. Actually, now should a plan be established for a farm based upon the available potential? A method is needed. A kolkhoz sold a portion of its output at the market. How will this be handled in the account for purchases? An instruction is needed. In some areas, the officials awaited recommendations for paying wages out of gross income. And USSR Gosagroprom, jointly with other all-union economic departments, prepared only approximately 30 new normative documents.

Again, are instructions needed? It would seem that this word has acquired a negative shade of meaning. We hear an opinion expressed by the deputy chairman of the Talgarskiy RAPU [rayon agro-industrial association] in Alma-Ata Oblast A. Volchek:

"These documents do not limit but rather they expand noticeably the independence of kolkhozes and sovkhozes. We are already using many norms and employing them in actual practice. For example, we use them for computing the wage fund."

#### Who Is Who

"It is now becoming clear just who is who" commented a secretary of a rayon party committee, with regard to the conversion over to the normative method for planning, "What does it mean to define tasks not on the basis of results achieved but rather according to a farm's resources? It is immediately apparent who has a light burden and who is overworked."

Beyond any doubt, the planning of purchases according to norms plays the first violin in the new mechanism. True, why function according to the principle: should there not be more in the cart for that person who is pulling? The availability of funds and the fertility of the land must be taken into account. And this applies not only to farms but also to entire rayons and oblasts. The normative method makes it possible to uncover hidden reserves, the likes of which we never even dreamed of earlier.

Let us take two rayons in Kharkov Oblast -- Barvenkovskiy and Dvurechanskiy. The latter produces several million more rubles worth of agricultural products. But thought must be given first of all to whether it is operating better or worse than the former rayon. This year the economists, when defining the plans for the following year, employed norms for evaluating the potential of both rayons. The potential turned out to be the same! Thus the workers in Barvenkovskiy are constantly failing to supply the output associated with their potential. Consequently, it was no accident that the tasks were reviewed in the interest of increasing them.

Overall, a volume of 38 million rubles worth of products was redistributed throughout the oblast.

What attracts the economic executives to the normative method of planning? Is it objectivity? True, some specialists believe that individual aspects of the method are in need of refinement. In particular, kolkhoz and sovkhoz specialization must be taken into account more fully.

"We will improve the method" stated the chief of the Administration for Overall Planning of USSR Gosagroprom N. Averyanov, "Some republics and oblasts are slow in converting over to the normative method. The following problem is being encountered in some areas: land evaluation data is not available and at times such information is clearly obsolete."

The extensive use of normative planning provides a guarantee for further democratization of administration within the APK. In conformity with modern conditions, creative use is being made of Lenin's idea concerning a tax in kind. Indeed, a most important condition of the new mechanism is the need for firm tasks by years of the five-year plan. Discretion is being urged in the use of above-plan output in the various areas.

But there are some who do not like this system. There are some administrators who are not averse to applying pressure to a farm leader or giving him an additional task in the interest of rectifying a problem in a rayon or oblast plan.

This past autumn, a telephone call was received from the Konstantinovo Breeding Plant:

"The plan for purchasing grain was fulfilled and the RAPO is issuing an additional task" complained the economists, "More products must now be delivered. But the sovkhoz is engaged in swine production and it must purchase its grain forage from a third party and at an exorbitant rate."

What is the problem? The RAPO achieved what it wanted. But the farms must "find" additional mixed feed and bear additional expenditures. Is this not a blow against independence and cost accounting?

#### Not Only Quantity

The new economic mechanism must be discussed now and not in the future. It has been mastered almost completely in Stavropol Kray, Vologda Oblast and in some other regions. Perhaps not all of the economic executives in these regions have fully experienced the broad independence involved or learned how to utilize the unusually rich spectrum of rights. We are still encountering incidents of excessive administration and petty support. But the leaders and specialists are aware of one fact beyond any doubt: each farm is able to carry out its production operations using its own resources. Self-supporting production [samookupayemost] and self-financing do not represent a dream or wishful thinking, but reality.

Let us take Stavropol Kray. The plans for last year were developed on the basis of norms. And purchases, wages, resources and even overhead expenses were determined using methods and recommendations furnished by scientists. When the expenditures were summarized, it turned out that they decreased by 105 million rubles during a year's time. And this was with an increase in output production. The return from fields and farms had increased noticeably. The income of the kolkhozes and sovkhozes had increased twofold.

"We are not flattered by the results achieved" stated the secretary of the kray party committee, N. Yeremin. "The new economic mechanism requires many adjustments. In my opinion, the principal such adjustment is that of interesting each worker in converting over to self-supporting production [samookupayemost] and self-financing.

This year a majority of the country's kolkhozes and sovkhozes are capable of engaging in self-supporting production [samookupayemost]. And 23 percent of the farms are fully capable of living off their own money. They are converting over to self-financing. However, all work is not completed in this regard. The incentives for such collectives and the system to be followed by them in converting over to self-financing have not been fully thought out. It is believed that a farm which develops based upon its own resources is entitled to privileges and advantages.

Enterprises of the processing industry are converting over to self-financing in a very timid manner. The cost accounting base for relations among agroprom partners is weak. It often happens that mutual economic interest is lacking in those who produce and process products and deliver them to the consumer.

Naturally, the new economic mechanism does not operate of and by itself, even with the issuing of comprehensive instructions and recommendations. A need exists for reorganizing consciousness and for further developing democracy in production. More and more frequently we are encountering leaders and specialists who openly discuss the need for an acceleration but who do nothing to improve the work. Nothing creates the appearance of reorganization more than just rolling up one's sleeves and restoring order. At the Zatobolskiy Sovkhoz in Kustanay Oblast, each subunit is given a cost accounting task. But the months and the quarters pass and the economists cannot find the time to summarize the results. The check form of control has been mastered only at one out of every five farms.

What can be done in order to ensure that the new mechanism and the large scale organizational and economic measures produce a return more rapidly? They should be merged with the reorganization at each working position -- in each brigade, team and section. As mentioned during the January (1987) Plenum of the CPSU Central Committee, a most important practical task is that of creating conditions and introducing forms for production organization which will enable each worker to feel that he is the true proprietor of an enterprise. There is a tested means for instilling this feeling in an individual -- the collective contract. Four hundred thousand subunits have converted over to this method. Alas, some are unable to raise the productivity of the fields and farms on the basis of quantity alone. The quality of the work often remains low and the link between a contract and cost accounting is unreliable. The experience of farms which mastered payments based upon gross income instills in economists the hope that the extensive spread of this method will give the contract new strength and make it possible to coordinate the incentives closely with the final results.

The results of the first year of the five-year plan are presently being analyzed and it is interesting to note that agroprom performed along a united front. The grain, vegetable and potato yields were higher than those in the past. Greater quantities of milk and meat were obtained. The number of unprofitable farms declined and the total amount of profit increased. For the very first time over a period of many years, production costs decreased.

This is only the beginning. A more radical turning point has yet to be reached. The new economic mechanism of the APK will become stronger and there will be greater confidence in its ability.

[From the Editors:] With this article, the Editorial Board completes its series of publications under the title "Agroprom: 1 Year Later." In the materials for 24 November, 1, 9 and 27 December and 10 January, agro-industrial integration and changes in supply, servicing of farms, production of fruit and vegetable products and agriculture are discussed. Experience

reveals that by no means is everything organized properly in these areas. But progress is noticeable.

In the near future, the Editorial Board intends to continue the discussion of the problems of agroprom, with special attention being given to labor collectives, expanding publicity, democracy in the development of farm economies, improvements in structure and administration and the APK mechanism. What measures must be undertaken to ensure mastering of the economic methods of administration, the collective contract and cost accounting? What positive experience has been accumulated in these areas and how can even greater harmony be achieved in raising the mutual interest and economic responsibility of partners?

We await your letters concerning these vital agroprom problems.

#### Changes Slow in Ukraine

Moscow IZVESTIYA in Russian 27 Jan 87 p 1

[Article by S. Troyan, IZVESTIYA correspondent: : "An Instruction Was Received To Sow Brooms"; first two paragraphs are IZVESTIYA introduction]

[Text]--Zaporozhye Oblast--During a meeting held in the CPSU Central Committee on 23 January, a question was raised by agroprom farm managers concerning the unacceptability of commands being issued from on high. Unfortunately, this practice is being overcome only slowly.

The first deputy chairman of the Executive Committee of the Zaporozhye Oblast Council, chairman of the oblast agro-industrial committee, V. Veretelnik, to whom our correspondent had turned in discussing this matter, was very frank in his appraisal of the situation.

"Having read the materials of the CPSU Central Committee meeting, I must state in a self-critical manner that we truly do require the kolkhoz and sovkhoz leaders to display independence and initiative and yet we impose directions and instructions upon them in the manner of flags during a wolf hunt. Instructions and advice flow from on high in the manner of goods from the horn of plenty. Moreover, they flow vertically: from Kiev to the oblast, from the oblast to the rayon agro-industrial associations and from the RAPO's [rayon agro-industrial associations] to the farms. The impression is as follows: compared to past years when streams of paper flowed from the ministries and departments now included in the Ukrainian Agroprom [agro-industrial committee], today these streams have merged and have been converted into deep rivers. Here are some figures. Compared to the first quarter when the republic's Gosagroprom [state agro-industrial committee] sent us 104 orders, during the second quarter -- 126 and the third -- 133 orders. In all, there were almost 500 orders in 1986! One and a half orders had to be carried out each day! But this was not all. During the first 3 months of last year, we received 528 letters from Kiev and during the last 3 months -- 600. In all, the communications specialists delivered more than 3,000 orders, telegrams and other documents to the oblagoprom [oblast agro-industrial committee] during 1986. Many of them contained numerous appendices.

I spend 3-4 hours daily reading this mail and taking action upon it. It bears mentioning that a good portion of it is handled by the deputy chairman of the oblagroprom, otherwise I would not be able to raise my head from under the pile of papers.

Thus it was that in May 1980 the Board of Gosagroprom for the UkrSSR adopted the decree entitled "Measures for Accelerating the Complete Mechanization of Labor-Intensive Processes in Animal Husbandry." Based upon this decree, the oblagrprom was forced to issue an appropriate directive to the rayons. There can be no doubt but that the problem of eliminating manual labor in a sub-branch is a very urgent one. Nevertheless, the question inevitably arises: how is it possible for determinations to be made in the republic's capital as to how many cows are to be maintained by means of automatic stanchions in a particular oblast, how many cows are to be milked in special stalls and how much feed is to be made available using mobile distributors? What type of cages should be used for hog and chicken maintenance and what controls should be exercised over them?

Unfortunately, in such instances the oblast agro-industrial committee must develop its own instructions and issue them to the rayons, otherwise Gosagroprom will allow it no peace. And indeed, quite often such TsU's [central administrations] lack the required support.

One recalls the IZVESTIYA article entitled "In Former Style," from Nikolayev Oblast. The situation was similar to our own. True, we are trying to obtain grain from rye-grass. This same Zaporozhye Oblagroprom, after having received almost 500 orders and instructions from Kiev, sent only 88 to the RAPO's [rayon agro-industrial associations]. It did so at its own risk.

The past year revealed that the worst traditions of excessive paperwork are still surprisingly alive. Although everyone seems to favor a reorganization of the operational style, no action is being taken. In order to improve the grain production situation, a decision was handed down in the oblast to leave 327,000 hectares of arable land in bare fallow during the second year of the five-year plan. But Gosagroprom for the UkrSSR said no to this, claiming that 207,000 hectares were sufficient for the Zaporozhye workers. I would like the reader to verify my words: the oblast leaders expended a great amount of effort in defending "their figure." The Zaporozhye grain growers had to wage a strong campaign in order to be able to grow peas on the desired number of fields.

The thought automatically springs to mind -- what would have happened if all of the recommendations from on high had been carried out without question? Here is what would have happened. The oblast would have been allocated 214,000 tons of mineral fertilizer (in active agent) for the second year of the five-year plan. Of this amount, 176,000 tons would have been prescribed for the grain fields. Another document would have prescribed 40,000 more tons for other crops being cultivated under irrigation. Even a reader lacking in mathematical skill would note that 2,000 more tons of mineral fertilizer would have to be found somewhere. But in addition there would also be dry valley land -- up to 40 percent of the arable land -- on which oil-bearing and forage

crops would be sown. Is it possible to find a leader who would agree with growing sunflowers or alfalfa without a top dressing? Yet the higher organization, just as in the past, requires that its instructions be followed to the letter. Generally speaking, should it expend time and effort offering advice which nobody is able to follow?

A long forgotten principle once again makes its presence known -- "Responsibility is removed with a signature." It is difficult to find an individual who would negate the need for increasing the production of consumer goods. In Gosagroprom for the UkrSSR, they still recall Order No. 192 of 19 May 1956. They recall how a requirement was sent to the Dnepropetrovsk, Kirovograd, Zaporozhye, Nikolayev, Odessa, Kharkov and Kherson agroproms calling for the production and delivery to trade organizations of a definite number of brooms made from sorghum. I am not aware of what the situation was in other regions, but the workers in Zaporozhye had never made more than 800,000 items of this nature and yet here they were being called upon to produce 1.2 million immediately.

"It would not have been quite so bad" stated the deputy chairman of the oblagroprom L. Tsybulshchak, showing some embarrassment, "if only the sowing periods for sorghum had not already passed. The prednepr kolkhozes and sovkhozes would have had to move their sowing machines out onto the fields once again in June. I can imagine what they would have thought in the RAPO if during the summer we sent them an order for work or materials.

The paper was signed and still no sorghum was grown there. Gosagroprom for the UkrSSR held a meeting to review the previous year. A very urgent question was raised during this meeting -- measures for raising the effectiveness of land reclamation operations throughout the republic. Among those invited was the chairman of the Akimovskiy RAPO (Zaporozhye Oblast) D. Balabatko. Dmitriy Moiseyevich is a rather direct individual and he has suffered on more than one occasion for this reason. However, he survived.

I acquainted myself with the draft resolution -- all nine pages -- and thereafter I leafed through its 16 appendices. Here there is a task for applying mineral fertilizer to irrigated and drained lands and a task for the gypsuming and liming of solonetz and acid soils. Everything is in tons and hectares! And yet, in order to obtain a return from an irrigated task, it is not these tasks that must be solved but rather completely different ones. These should be discussed.

And the RAPO chairman stated that today the chief concern has been overlooked: an all-round approach is not being employed for land reclamation or for the development of irrigated lands. He stated that during the 11th Five-Year Plan, for example, the irrigated fields at the Kolkhoz imeni Shevchenko were increased by 3,500 hectares. And the return from them was low. Indeed, they were "bare." Of 620 planned apartments for these hectares, the builders introduced less than one half and no livestock facilities were built for 600 cows. According to D. Balabatko, it would have been better if only one half of the above amount of irrigated land had been placed in operation, with all of the attendant services. But the builders had already left the region.

Just as in the past, the young and already greying leaders of kolkhozes and sovkhozes dream about independence! However, instructions continue to be received from Kiev in increasing numbers. Special messengers monitor the manner in which they are being carried out. Upon my request, a calculation was carried out in the oblagroprom on just how many leading comrades and specialists from the UkrSSR Gosagroprom arrived in December 1986. The answer was 28. In all, they remained here 163 days!

Our friend D. Balabatko stated:

"Believe me when I say that we are not against inspections. But by no means are good results produced by every committee. The work must not be carried out in this manner. And we are pleased that this faulty administrative method was condemned during the CPSU Central Committee meeting. It is our wish and we are prepared to work according to the new methods. We want to emancipate the farms and to assist rather than command them. I believe that then we will be able to overcome the stagnation prevailing in a number of branches of the agro-industrial complex, as noted over the past few years.

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## AGRO-ECONOMICS, POLICY, ORGANIZATION

### ACADEMICIAN ON ALTAY APK COST-ACCOUNTING PROBLEMS

Moscow SELSKAYA ZHIZN in Russian 30 Jan 87 p 2

[Article by M. Gritsenko, candidate of economic sciences and chief of the Altay Department of SibNIIESKh: "Blockages Along the Way"]

[Text] Since the beginning of last year Aleyskiy Rayon in Altay Kray has been operating under the conditions of an economic experiment to improve the system of management and the economic mechanism on kolkhozes, sovkhozes, and other enterprises of the agroindustrial association. Noticeable changes for the better have already become evident.

About 20 million rubles of profit were realized from the sale of products produced by the rayon's farms according to the results for the year. This is triple the average annual level in the 11th Five-Year Plan and twice the level of the plan for the year. Overall profitability of production was higher than 40 percent.

All the entities in the rayon's agroindustrial complex are coming together to form a single economic mechanism. All the subdivisions are today operating on cost accounting (khozraschet) and the collective contract. Kolkhozes and sovkhozes are being guided by plans for production and sales of products which are stable up to the end of the current 5-year plan and which they themselves have drafted (this was envisaged by the experiment).

It would seem that the reorganization could not be going better. But this is the impression we get if we limit our familiarity to a single rayon. But how are things going in other rayons? To tell the truth, there are still those in the kray which have not parted company with the habit of living at the state's expense. Many of the kray's farms are for all practical purposes heedless of the size of the losses. For example, the "Mayak" Kolkhoz in Yegorevskiy Rayon owes 13 million rubles in long-term and short-term loans, and its fixed capital amounts to only 9.1 million. The annual losses run up to 700,000 rubles. Nor is the situation any better on the "Put Pobedy" Kolkhoz in Zarinskiy Rayon, where the debt amounts to 6.5 million, and fixed capital only 5.2 million rubles.

The calculation of the bad farmers is simple: if we ourselves cannot cope-- the state will help. And since an environment of intolerance has not been

built up around that kind of economic activity, they get along somehow, they do not count the costs or worry about an economy regime. Although they have immense losses and debts, these farms still receive their wages regularly, they buy equipment, and they go on building. It has come to the point where some of them have entirely spent up their own working capital. The necessary production stocks are built up and seasonal costs are covered with credits from Gosbank. And for all practical purposes these credits are not repaid. In such a situation what is the point of concerning oneself with cost accounting, when one can have an easy life even without it?

It seems that a stricter attitude has to be taken toward the use of credit. Agricultural enterprises must cover their costs out of their own income. Help from the state would be resorted to only when there is a temporary shortage of the farm's own resources. Higher interest rates than at present should also be established, and the terms for repayment should be stricter.

Credit financing needs to be set up in such a way that Gosbank would furnish the resources of loans to kolkhozes and sovkhozes to build up fixed and working capital for production of a particular product according to standard levels of capital intensiveness and per unit of the product produced. In exchange for the credit taken the farm would commit itself to producing a certain quantity of the product. And if it does not meet its obligations to the bank, then release of the credit would be terminated. This is one of the possible ways of solving this complicated problem.

Strict linkage of expenditures to revenues requires a change of prices of farm products, which are now differentiated by very large zones and therefore cannot reimburse the actual costs of the farms whose conditions are objectively worse with respect to the quality of the land, the climate, and their location.

Much the same thing can be said about the state granting benefits to kolkhozes and sovkhozes with low profitability. At present the subsidies quite often encourage mismanagement and irresponsibility. How else can we understand the fact that the lower the level of economic management on the kray's kolkhozes and sovkhozes, the larger the amounts they receive? For example, the "Put Lenina" Kolkhoz in Shipunovskiy Rayon, which in 1985 had a loss amounting to 307,000 rubles and a debt on loans of 6.2 million rubles, received a supplement for low profitability of 144,000 rubles and assimilated capital investments amounting to 125,300 rubles.

In our opinion, the supplements ought to be applied to emergency compensation for a drop in production efficiency resulting from natural disasters and also changes in specialization or the construction of new facilities to produce products to meet state orders.

We cannot but call attention to the fact that such indicators as production costs, profitability, and the productivity of labor are not taken into account at all in drawing up the results of socialist competition. Just as before, the principal place is given to quantitative indicators. The qualitative indicators and financial indicators do not receive that kind of attention.

Take the article in the kray newspaper about placing the collective of a kol-khoz or sovkhoz on the Honor Roll. This is done when a farm fulfills the plan by a certain percentage. But there still have not been any articles about this distinction being awarded to a collective for earning so much and so much profit, for having achieved a reduction of the production cost of grain or meat by a certain percentage, and for having achieved such-and-such a level of profitability of production when the average level for the rayon or for the oblast was such-and-such.

We need to point up the fact that the most important principle of cost accounting--independence in matters of planning the production structure and using products once the state plan for purchases has been fulfilled--continues to be violated. Just as in the past, kolkhozes and sovkhozes are assigned from above a great number of indicators that regulate various aspects of their activity. They are still receiving targets for the area planted and the crop yield, the number of head livestock and livestock productivity, for the production of animal feed, for sales of products to the state over and above the plan, especially grain. In 1986 many sovkhozes and kolkhozes in Siberia overfulfilled the plan for grain sales to the state. Why aren't farm managers gratified by this fact? Because many of them "overfulfilled" the plan under pressure. When we take into account the inadequacy of the supply of feed to livestock raising and the lack of balance among feeds, then we can anticipate a considerable shortfall in the output of animal husbandry.

The situation continues to be one in which the entire immense management apparatus of the superstructure, which does not in actuality bear material accountability for the state of production on kolkhozes and sovkhozes, is still having a decisive impact on formation of the planning indicators of the farms. And this means that the administrative method of operation is still flourishing in planning practice.

The application of cost accounting is also being held back by substantial shortcomings in material and technical supply of subdivisions operating on cost accounting. Many of them do not receive what was planned in the cost-accounting targets. There is a shortage of wheeled tractors, of equipment for raising animal feed, and a number of agricultural machines for mastering intensive technologies. In such a situation the farm managers and specialists are not always able to meet their obligations to collectives operating on job contract. The machine operators, milkmaids, and other workers in turn lose confidence in the possibility of achieving the planned yield or productivity of livestock, and this means they lose an appreciable reward based on the results of their work.

It is easier to assimilate cost accounting within the farm when the shop structure of management is operative on the kolhkoz or sovkhoz.

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CSO: 1824/147

## MAJOR CROP PROGRESS, WEATHER REPORTS

### WEATHER CONDITIONS, SEED SITUATION IN BELORUSSIA

#### Unsatisfactory Seed Situation

Minsk SELSKAYA GAZETA in Russian 20 Dec 86 p 1

[Unattributed article: "First-Category Seeds for the Spring Field"]

[Excerpts] No one has any doubt that seeds are the basis for the harvest. Many farms in the republic saw to it in advance that they were prepared for spring sowing. Berezovskiy, Brestskiy, Baranovichskiy, Lioznenskiy, Chashnikskiy, Rechitskiy, Slonimskiy, Shchuchinskiy, Minskiy, Glusskiy, and other rayons coped with this most successfully. About one-half of the republic's farms fully have first-category seeds of spring grain and pulse crops for sowing for grain and in Brest Oblast, 80 percent of the farms.

Nevertheless, the seed situation is not satisfactory everywhere. At the beginning of December seed stocks of pulse crops were not fully stored on farms in 45 rayons. This especially concerns Krasnopol'skiy, Slavgorodskiy, Zhlobinskiy, Logoyskiy, and Starodorozhskiy rayons. Strange as it may seem, managers of these rayons do not take sufficient measures to purchase deficient seeds of pulse crops.

Inspections have also indicated serious oversights in the organization of work on improving the quality of existing seeds. This applies primarily to farms in Mogilev Oblast, where, on the whole, the provision of first-category seeds makes up 90.2 percent. Farms in Bobruyskiy, Belynichskiy, Klichevskiy, and Chausskiy rayons poorly work on improving their quality. The oblast agro-industrial committee and most rayon agro-industrial associations have been unable to direct kolkhozes and sovkhozes toward a prompt and high-quality preparation of seed stocks. Sluggishness and a lack of organization in the utilization of existing capacities are manifested here year after year and the course of seed preparation drags out over the entire winter.

Farms in Minsk Oblast are not engaged in the preparation of seed stocks for spring sowing below their capabilities. There is still a big proportion of substandard seeds on farms in Smolevichskiy and Starodorozhskiy rayons.

Similar shortcomings in the preparation of seed stocks are also noted in Gomel Oblast.

INFORMATION

On the Availability and Quality of Seeds of Spring Grain and Pulse Crops, Flax, and Grass on the Republic's Kolkhozes and Sovkhozes (in percent)

	Oblasts						
	Brest	Vitebsk	Gomel	Grodno	Minsk	Mogilev	
Availability of seeds of spring grain and pulse crops including pulse crops	100.3 99.0	100.3 99.5		100.5 73.0	100.2 99.7	100.6 93.0	100.1 77.0
Provision with first-category seeds for grain (in relation to the need)		97.3	95.0	91.8	94.0	95.0	90.2
Provision with standard seeds of flax		44.6	29.3	41.1	45.8	42.7	41.3
of grass		61.5	40.3	57.0	102.3	62.1	36.9

In some rayons, kolkhozes, and sovkhozes the preparation of flax and perennial grass seeds is proceeding slowly and the schedules of this work are not met. In Minsk and Mogilev oblasts 16 farms have not yet begun flax seed cleaning, in Gomel Oblast, 15, in Vitebsk Oblast, 9, and in Grodno Oblast, 7. Checked flax seeds are often of a low quality. For example, only 20 to 30 percent of the seeds checked on farms in Dubrovenskiy, Polotskiy, Slonimskiy, Checherskiy, Myadelskiy, and Kostyukovichskiy rayons are standard seeds. A total of 122 farms in Vitebsk Oblast, 64, in Mogilev Oblast, 42, in Gomel Oblast, and 24 kolkhozes and sovkhozes in Minsk Oblast do not have standard flax seeds at all.

As yet not everything has been done to prepare grass seeds. Kolkhozes and sovkhozes in Braslavskiy, Logoyskiy, Klimovichskiy, Kruglyanskiy, Vetkovskiy, Gomelskiy, and Dubrovenskiy rayons are slow in preparing and checking them for sowing qualities.

The situation with respect to seed preparation could have been much better if local seed services had operated more efficiently. Some chiefs of seed breeding subdivisions of oblagroproms do not make the necessary demands on personnel. How many promises to rectify the situation were heard from V. Shebeda, chief of the Mogilev subdivision! However, there are no changes. We now have the right to also make serious claims against G. Separin, chief of the Minsk subdivision. After all, the oblast's farms have seeds of grain crops, they even sell them to Vitebsk and Mogilev farmers, but in no way do they intend to introduce proper order in their seeds stocks. Right now the oblast could have had a full volume of first-category seeds of cereal crops for sowing for grain. Nor does T. Keyzerov, chief of the Vitebsk subdivision, take all complexities into consideration. Vitebsk Oblast is an age-old flax growing region. Advanced farms obtain high fiber harvests primarily owing to the high category of seeds. Therefore, their preparation is never delayed here. Now, however, standard flax seeds available in the oblast make up only 29 percent of the need.

The existing situation requires the adoption of urgent measures to eliminate the revealed oversights. Now it is necessary to immediately replenish the deficient quantity of seeds of pulse crops, flax, various types of clover, and cruciferous crops and to take measures to complete bringing seeds of buckwheat, pulse crops, flax, and grass up to the required standards. Work should be activated on an interfarm exchange of available seeds of barley, oats, and leguminous crops for replacing obsolete varieties and improving the structure of sown areas in terms of early ripening so that by spring sowing first-category seeds of highly productive regionalized and promising varieties would fully meet the needs of all farms.

#### Record Cold in January

Minsk SELSKAYA GAZETA in Russian 11 Jan 87 p 1

[Interview with V. A. Avvakumov, deputy chief of the Belorussian Hydrometeorological Center, by an unnamed BELTA correspondent, 9 January: "Winter Shows Its Character"]

[Text] It must be stated that winter is seriously encroaching on seemingly unbreakable records. Judge for yourselves: At night and in the morning the mercury column in east of Vitebsk and Mogilev oblasts dropped to the minus-30 to -38-degree mark, which is not far at all from the absolute result in January of 1940--42 degrees of frost. We would like to note that in the last 35 years the 30-degree-below-zero mark was crossed only four times.

Last week the average daily temperature was minus 25 to 30 degrees. This is 14 to 18 and in eastern regions even 20 to 24 degrees below the usual norm for the beginning of January. The norm was determined according to the results of observations during more than 100 years.

However, V. A. Avvakumov, deputy chief of the Belorussian Hydrometeorological Center, with whom a BELTA correspondent talked at noon on 9 January, believes that a record can be set not for the lowest temperatures, but for the length of the cold weather. Since 1951 frost of 25 degrees and lower "ruled" 8 days in succession only twice. This January will repeat this "achievement" and, perhaps, will even exceed it.

"Once we have risked forecasting a record," Viadislav Alekseyevich says, "we simply must substantiate our assumption. The reasons for such a severe cold weather have already been discussed. Very cold arctic winds, bypassing the powerful cyclone settling down a little north of Moscow, are heading for the republic's territory. They 'make' the weather. The cyclone is very stable and not very mobile and, therefore, we don't expect significant changes in the nature of atmospheric processes."

Furthermore, according to satellite communication data, a new cycle is now originating in Denmark and will head through Poland for the Ukraine. Most likely, it will again open a corridor for cold arctic air. At night and in the morning the temperature will drop to 37 degrees of frost and during the day will be maintained at a 28-to-30-degree level.

With what tests does the new cold snap threaten us? Whereas there is no special danger to crops, which are reliably covered with a dense snow blanket, the bitter frost can do serious damage to orchards. The experience of previous severe winters shows that pears, cherries, and certain apple varieties remain the most vulnerable. These trees, as well as bushes--currants, raspberries, and gooseberries--should be covered with snow at the maximum height.

We must warn motor vehicle drivers that during bitter frost an ice crust is formed on roads, especially on ascents and descents. Be extremely attentive and careful.

We advise parents to curtail children's outings in fresh air and directors of public education and health bodies to establish close contact with meteorological service workers in order to make at the proper time a possible decision on suspending classes in schools and organizing 24-hour groups in kindergartens.

When freezing weather intensifies, resistance to it increases: Furnaces in rural homes burn more frequently and additional electric heating appliances are turned on in city apartments. The number of fires increases sharply, so that during freezing weather we must remember that fire is not only a friend...

January checks how urban and rural residents have prepared themselves for cold weather. Winter examines summer and fall.

#### Livestock, Crop Wintering

Minsk SELSKAYA GAZETA in Russian 10 Jan 87 p 1

[Unattributed article: "To the Attention of Agricultural Workers"]

[Text] The present crop wintering in Belorussia is noted for weather conditions extremely complicated for agriculture. The end of December and the beginning of January were very cold. The average daily air temperature was 10 to 15 and in the last 5 days 18 to 24 degrees lower than average long-term values--25 to 30 degrees. During night and morning hours the air cooled down to 30 or 35 degrees and here and there east of the republic, to 36 or 38 degrees of frost.

By that time fields had a snow cover 10 to 20 cm high, which, on the whole, protected crops against the effect of low temperatures. However, since snow lies unevenly and here and there in Minsk, Grodno, and Brest oblasts its height is below 10 cm, there is fear that poorly developed winter grain, clover, and other wintering crops will be damaged. Therefore, on the date set--25 January--all kolkhozes and state farms in the republic must take samples for growth for the purpose of determining plant viability.

Such freezing weather is dangerous to fruit trees and shrubs, especially young seedlings. Damage to sprout and flower buds, as well as to the annual growth

in cherries, plums, pears, and apple varieties less resistant to low temperatures, is possible.

The bitter frost greatly complicates livestock wintering. Therefore, it is necessary to take measures for heating barns and water supply sources and for full-ration animal feeding.

The cold weather will continue for the next 2 or 3 days.

#### Minsk: First-Category Grain Seeds

Moscow SELSKAYA ZHIZN in Russian 16 Nov 86 p 1

[Article by V. Legankov, SELSKAYA ZHIZN correspondent: "Up to the First Category"]

[Text] Minsk, 15 Nov. The oblast's grain growers will sow spring grain and pulse crops only with first-category seeds of the best regionalized and promising varieties. Kolkhozes and sovkhozes in Berezinskiy Rayon were the first to bring all stored stocks up to such standards. The transfer of seed breeding to an industrial basis ensured success.

Farms in Nesvizhdskiy, Uzdenskiy, Krupskiy, and Pukhovichskiy rayons are completing the cleaning and grading of the latest batches of barley, oats, peas, and lupin.

#### Vitebsk: Care of Winter Crops

Moscow SELSKAYA ZHIZN in Russian 12 Dec 86 p 1

[Article by G. Krasnoperov, SELSKAYA ZHIZN correspondent: "Substantial Increase"]

[Text] Vitebsk, 11 Dec. Specialists at the oblast's APK have checked the state of winter grain crops, which are now grown according to intensive technology. On all fields plants have developed normally. Now they are in a state of winter rest.

Owing to intensive technology, gross grain output on the oblast's kolkhozes and sovkhozes has now exceeded the average annual output during the 11th Five-Year Plan by 14.8 percent. Dokshitskiy, Orshanskiy, Tolochinskii, Postavskiy, and Sharkovshinskiy rayons obtained an especially substantial harvest increase. Care of winter crops will help to ensure further yield growth.

#### Weather Damage to Crops

Minsk SELSKAYA GAZETA in Russian 18 Jan 87 p 1

[Unattributed article: "To Farmers' Attention"]

[Text] The complex weather conditions that set in on the republic's territory can cause damage to winter grain crops and winter rape. Agronomic services of

kolkhozes and state farms must immediately take samples to determine plant viability. When sampling monoliths, they should take the following requirements into consideration:

In a monolith there should be no less than 30 to 35 plants;

a monolith with two rows of crops should be sampled;

for grain crops the width of a monolith should be 18 to 20 cm, length, 30 to 35 cm, and thickness, 15 cm;

for winter rape the area of a monolith should be 30X30 cm and its thickness, 20 cm and there should be two rows of crops.

The cut out monolith should be placed in boxes, covered with tarpaulin, burlap, or a light straw mat, placed in a room with an air temperature of plus 4 to 6 degrees, and kept until soil thaws out completely. Afterwards the monolith should be transferred to a lit room with a temperature of plus 16 to 20 degrees for accelerated plant growth.

The calculation of live plants should be made on the day of transfer to a lit room and after 21 days. Then the percentage of live plants should be calculated.

On plots measuring up to 10 hectares two monoliths should be sampled and 10 hectares and more, four.

#### Preparations for Spring Sowing

Moscow SELSKAYA ZHIZN in Russian 11 Feb 87 p 1

[Article by G. Krasnoperov, SELSKAYA ZHIZN correspondent: "Harvests Must Grow"]

[Text] Vitebsk, 10 Feb. Farmers in Ushachskiy Rayon have brought seeds of spring grain and pulse crops up to the first category. The quality of repaired soil cultivating and sowing equipment is considered good. Managers of contract brigades and detachments have replenished their knowledge in courses for the study of intensive grain crop cultivation technology. An active increase in stocks of organic and mineral fertilizers continues.

All this will help to carry out spring sowing in a short time and at a high agrotechnical level and to fulfill the increased obligation--to obtain 28 to 30 quintals of grain per hectare.

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## MAJOR CROP PROGRESS, WEATHER REPORTS

### WEATHER CONDITIONS, GRAIN SEED SITUATION IN NORTH CAUCASUS

#### Strain Renovation Work in Stavropol Kray

Moscow SELSKAYA ZHIZN in Russian 12 Dec 86 p 1

[Article by S. Timofeyev, SELSKAYA ZHIZN correspondent: "Increasing the Yield of a Hectare"]

[Excerpts]--Stavropol Kray--Work concerned with strain renovation for grain and forage crops is being intensified on farms in Stavropol Kray. The farms are making preparations to sow only 1st class seed in the spring. The winter crop fields are under constant observation and tending of the crops is now commencing.

Special concern is being displayed in Kirovskiy Rayon for the quality of the seed. It has become a fine tradition to sow only seed of the 1st class of the sowing standard. The chemical disinfection, incrustation and also the processing of the seed using laser beams is making it possible not only to eliminate diseases and grain damage caused by pests, but in addition it is producing uniform seedlings and raising the yields, especially the strong wheat yields. Thus, this year, against a plan calling for 15,000 tons, 40,000 tons of strong grain were sold to the state.

At the present time, the farmers in Kirovskiy Rayon are directing all of their attention towards raising the grain crop yields. The sowing of winter crops on the entire area of 45,600 hectares was carried out during favorable agro-technical periods using intensive and improved technologies. Fine seedlings were obtained in all areas. On almost all of the farms, the plants entered the winter fully tillered. The agronomists are monitoring thoroughly their condition. Efficient measures have been developed for tending the crops, applying top dressings to them and combating pests and diseases. These measures are already being carried out in a number of areas. All efforts are being directed towards ensuring that each sown hectare produces a high yield.

During the course of intensifying their seed production work, the workers in Stavropol Kray are at the same time expanding their testing of new intensive varieties of winter wheat, varieties such as Istok, Spartanka, Brigantina and others.

A majority of the agronomists, seed production specialists and operators of mechanized threshing floors are devoting thought to the future harvest. The preparation of the seed funds for spring is being completed throughout the rayon. As a rule, the seed has been stored neatly in storehouse compartments, labels have been supplied and checks are regularly being carried out on the germinative capacity of the seed. The farmers are fully prepared to handle any unexpected developments that may arise during the winter or spring months.

The farms in Kochubeyevskiy Rayon are engaged in seriously reorganizing their seed production work. For example, the collective of the gossortouchastok [state strain testing station] located on lands of the Kazminskiy Kolkhoz is devoting special attention to studying many new varieties of oats, which occupies an important place in the rayon's feed balance. An expansion of the spring sowings of this crop will aid in raising the grain yields. The Bug oat variety, developed by the Belorussian Scientific Research Institute of Farming, has undergone successful testing here. This year it furnished 58.3 quintals of grain per hectare, 7.1 quintals more than the Kubanskiy regionalized variety. The Bug plants are resistant against lodging and they are not susceptible to powdery mildew or blight. The new variety has proven its worth in sowings for grain and in leguminous grass mixtures. The Nem-83 oat variety, developed by the Narym gosselekstantsiya [state plant breeding station], appears to hold great promise for the future. Last year it produced a yield of 56.7 quintals and this year even more -- 58.6 quintals. The seed from these varieties has been turned over to farms for propagation.

The agronomists on farms in Novoaleksandrovskiy, Izobilnenskiy, Georgiyevskiy, Sovetskiy and other rayons are carrying out a great amount of strain changing work. This work has already produced considerable results; the grain and forage crop yields have increased throughout the kray. In all areas, a task has been assigned to the specialists attached to the agricultural service --to carry out the seed production work in strict conformity with the development of the intensive technology and the use of chemical processes and new machines in farming. A great amount of work is being carried out throughout Stavropol Kray in the interest of obtaining high yields next year.

#### Winter Storm Conditions

Moscow SELSKAYA ZHIZN in Russian 28 Jan 87 p 4

[TASS report: "Thunder With Snow"]

[Text]--Rostov Na Donu--Many residents of Rostov were awakened yesterday by the sound of strong spring-like thunder. Lightning flashed among densely packed clouds. And thereafter a snowstorm descended upon the city. A heavy fall of snow commenced the evening before in the northern rayons of Rostov Oblast. During the night, the snow cover increased to one half meter. Thousands of people went out to help clear away the snow from highways, railroad track, streets and sidewalks. In response to commands issued by operational staffs, created in all of the municipal and rayon soviets of people's deputies, equipment was made available for combating the snowdrifts.

## Heavy Snowfall

Moscow TRUD in Russian 28 Jan 87 p 4

[Unattributed article: "January Thunder"; first paragraph is source introduction]

[Text] Many residents of Rostov awakened yesterday to the sound of strong spring-like thunder. Flashes of lightning appeared among the densely packed clouds. Thereafter, a snowstorm descended upon the city.

A heavy fall of snow had commenced the evening before in the northern rayons of Rostov Oblast. During the night, the snow cover increased to one half meter. Thousands of people went out to help clear away the snow from highways, railroad track, streets and sidewalks.

Nevertheless, hundreds of Rostov inhabitants and residents from other industrial centers throughout the oblast were later arriving for work today: there were interruptions in municipal passenger transport operations along a number of routes. Impressive lines formed at many stops while, as always, empty departmental autobuses quietly passed by. Nor was it simply a case of a lack of administrative ability on the part of certain workers attached to GAI [City Automobile Inspection] and passenger transport administrations. Snow was removed from the city's streets mainly by trainees from PTU's [vocational and technical schools], students and office workers, equipped with scrapers and scoops. And were they able to remove the snow quickly along hundreds of kilometers of municipal streets? The weather forecasters had issued repeated and timely warnings as the snow cyclone approached the lower Don region, but it was as though not everybody in Rostov had listened to the first lessons of this snowy winter.

It was only today's thunderstorm that served to force the mechanized detachments out onto the streets. And this took place while it was still thundering.

## Stavropol Thunderstorm

Moscow SELSKAYA ZHIZN in Russian 29 Jan 87 p 4

[TASS report: "Snowstorm With Flashes of Lightning"]

[Text] During the night, the environs of Stavropol were visited by bright flashes of lightning and resonant peals of thunder together with a strong snowstorm. It appeared to be a genuine mid-summer thunderstorm with bitter gusts of wind and heavy low-flying clouds. Only instead of a driving rainfall, there was a whirlwind of falling snow.

The previous evening the weather forecasters had reported a drop in atmospheric pressure, as the weather turned colder and more windy. Such conditions are not especially unusual for the month of January. However, a thunderstorm during a "driving" snowfall is a rare weather phenomenon. They have occurred here in the past, but no more frequently than once every several

years. However, this winter the residents of Stavropol have on two occasions seen lightning and heard thunder.

#### Extremely Cold Weather

Moscow TRUD in Russian 8 Jan 87 p 1

[Article by A. Snitkovskiy and A. Shuvalov, scientific workers of the USSR Hydrometeorological Center: "Cold and More Cold"; first paragraph is source introduction]

[Text] Everyone recalls the intense cold of the 1978-1979 winter. And now, 8 years later, winter is again revealing its obstinate nature.

Almost the entire territory of the country is held in the grip of ringing frosts. This one time they arrived in the central zone, seemingly having bypassed the northern regions. For two days in a row, 6 and 7 January -- record low temperatures were recorded in Leningrad for these days in January.

In Moscow, Vilnius, Vladimir and a number of other cities, the temperature almost reached the record values for early January -- 32-35 degrees of frost. In particular, the absolute minimum temperature in the capital occurred on 17 January 1940 -- minus 42.2 degrees.

At the present time, a comparatively rare atmospheric process is being observed over the European territory of our country. The strongest frosts are occurring in those areas where a cold cyclone is penetrating the entire thickness of the troposphere. During the past few days, it has circled above the northwestern oblasts. This is a very active cyclone and thus the USSR Hydrometeorological Service is of the opinion that by the end of the week cold weather will prevail throughout the entire European portion of the USSR.

#### Snowstorm Strikes Moscow

Moscow SELSKAYA ZHIZN in Russian 13 Dec 86 p 4

[Article by N. Kisilevskaya, TASS correspondent: "From a Snow Queen's Train"]

[Text] It was only mid-day in Moscow on 12 December, but it seemed like twilight. Several moments later a snowstorm struck with incredible force. It seemed as though the snow queen was playing tricks with the city.

In just 10 minutes, the streets and squares of the capital were covered with a white blanket. However, the whirlwind did not last very long. Before long the sky became bright and clear and the air temperature began to fall.

The USSR Hydrometeorological Center explained this phenomenon by stating that a cold front had displaced warm air in the upper layers of the atmosphere, where powerful cumulus clouds had formed. During the winter, such phenomena are often accompanied even by thunderstorms. But this time there was no thunder or lighting. Finally the snow clouds abandoned the capital.

In the meantime, the weather grew colder. During the night of 13 December, the temperature fell to 12-13 degrees below zero.

#### Severe Winter Weather Conditions

Minsk SELSKAYA GAZETA in Russian 27 Jan 87 p 3

[TASS report: "Snowstorms and Cold Weather"]

[Text] Over the past few days, a strong cyclone moved in from the Baltic Sea, through the central oblasts and into the Volgo-Vyatsk region. The atmospheric pressure in Moscow fell 35 millimeters in a period of just 24 hours. Never before had such a large drop in pressure been observed in the capital.

The cyclone produced snowfalls and snowstorms in the Baltic region, Belorussia, the Central, Central-chernozem, Volgo-Vyatsk regions, in the northern half of the Ukraine and in Rostov Oblast. The height of the snow cover in these regions increased by 7-12 centimeters.

What will the weather be like over the next few days?

It will be characterized on the whole by the movement of a cyclone from Scandinavia into the western and southern regions of the European part of the country and thereafter into Kazakhstan. Such was the opinion expressed by specialists attached to the USSR Hydrometeorological Center. These cyclones will be followed by cold air. Prior to the end of January, the air temperature in a majority of regions in the European part of the USSR will be lower than the norm by 1-7 degrees. In the Central, Central-Chernozem regions, in the Baltic, Belorussia, the Central Volga region and in the northern Ukraine, the temperature some nights will drop to 20-28 degrees of frost and in the Volgo-Vyatsk and Northern regions -- to 30-35 degrees of frost.

The snow and snowstorms will continue in the eastern Ukraine, the north Caucasus and in the Volga and Urals regions. Following a brief pause, there will be a new fall of snow in the northwestern region, the Baltic, Belorussia, in the Central-Chernozem region, in the western and southern Ukraine and also to the south and east of the Central Region.

#### Unusual Winter Weather Conditions

Moscow KOMSOMOLSKAYA PRAVDA in Russian 6 Dec 86 p 1

[Article by V. Yunisov: "Thunder at the Beginning of Winter"]

[Text] During this first week of winter, the residents of both Moscow and Odessa are becoming somewhat accustomed to the caprices of December. Their wardrobe changes from day to day: today one sees fur caps and winter coats on the streets and tomorrow -- raincoats and umbrellas. Last week, for example, on Thursday, I flew from Vnukovo to Odessa and it was my hope that the weather along the Black Sea coast would be warmer than that in the capital. But I almost froze running from the aircraft to an autobus. In the evening, I did

not go for a walk since I had neglected to bring a hat with me. The following day the residents of Odessa were again greeted by southern winds and a light rainfall. I departed Odessa on 3 December and back in Moscow I encountered cold weather and piercing winds. The day before yesterday there was a warm period, the sun peeked through the clouds and finally there was some rain mixed with snow. On the morning of 5 December, the meteorological station recorded a storm discharge. What was it?

We placed a call to the Hydrometeorological Center. A scientific worker, Nina Yevgenyevna Nenakova, answered at the other end:

"A thunderstorm in December is not that much of a rarity" she stated, "On the average, they occur during this month once every 3 years. It bears mentioning that this present December is especially warm, its average daily temperature is the same as that which usually prevails during early November. On 4 December, a record high temperature for the entire history of observations was recorded: 6.1 degrees higher than zero.

The weather is produced by cyclones moving in from the Atlantic. Two such cyclones appeared over Moscow during the past few days and a third is expected to arrive from Scotland. But this morning it will be to the north of the capital and tomorrow -- in the Urals. Later, two more cyclones will appear and thus prior to 10 December there will be rain followed by snow. Just as in the past, the temperature will remain changeable.

"But why was it colder this week in southern Odessa than it was in Moscow?"

"At the time, a cold mass of air moved to the southeast from the northwest. Odessa was obviously under a cold front, while Moscow was under a warm front."

"The first week of December has already passed and we still have not seen any snow. What will the new year be like?"

"I will only be able to answer that question on 30 December" laughed Nina Yevgenyevna, "Write down the weather for the 6th: In the morning and during the day, wet snow during a light snowstorm, wind out of the west with gusts up to 20 meters per second. An increase in temperature of 1-3 degrees and ice-covered ground in some areas will be observed throughout the day.'"

#### High Quality Seed

Moscow SELSKAYA ZHIZN in Russian 24 Nov 86 p 1

[Article by Yu. Semenenko: "Concerns of Farmers"]

[Text]--Krasnodar--The Kuban farmers have over-fulfilled their plans for laying in seed for grain and pulse crops. All of the seed has been raised to the sowing standards and one half of it meets the requirements for 1st class. More than 100 percent of the highly conditioned seed has been placed in storage at kolkhozes and sovkhozes in Anapskiy, Guikevichnskiy, Krasnoarmeyskiy, Krymskiy, Krylovskiy, Novokubanskiy and other rayons.

The processing of seed continues throughout the kray. Exchange operations have commenced.

#### Seed Preparation for Spring Sowing

Moscow SELSKAYA ZHIZN in Russian 29 Jan 87 p 2

[Article by Yu. Semenenko: "For All of the Spring Crop Fields"]

[Text]--Krasnodar--The preparation of seed for spring sowing is nearing completion at kolkhozes and sovkhozes in the Kuban region. At the present time, all of the seed for the spring grain and pulse crops, with the insurance fund being taken into account, has been cleaned and improved to the condition for 1st and 2d class. The largest quantities of high quality seed have been laid away on farms in Anapskiy, Kurganinskiy, Krymskiy, Gulkevichnskiy and Ust-Labinskiy rayons. The storage of seed grain has been well organized here.

One bottleneck in the kray is that of supplying pea seed for the spring crop fields. On a number of farms in the Adygey Autonomous Oblast, only limited quantities of high quality seed grain have been obtained. In view of this fact, the organs of the APK [agro-industrial complex], jointly with enterprises of the Ministry of Grain Products, are undertaking measures concerned with exchanging and importing the missing quantities of reproduction grain. Efforts are underway aimed at ensuring that only 1st and 2d class seed is made available for the spring crop fields.

#### New Wheat Varieties

Moscow SELSKAYA ZHIZN in Russian 13 Dec 86 p 2

[Article by Yu. Semenenko: "Promising Varieties"]

[Text]--Krasnodar--Last summer, at the Ust-Labinsk Strain Testing Station, up to 94 quintals of grain per hectare were obtained from sowings of the new winter wheat variety Spartanka on conventional non-irrigated arable land. At other stations of the state strain testing network, it furnished 70-93 quintals of strong grain per hectare. Its potential productivity is in excess of 100 quintals. This variety is still undergoing state testing and yet last year it was sown at many kolkhozes and sovkhozes throughout the kray and in all areas it produced a fine increase in yields. Compared to such well known varieties as Partizanka and Bezostaya 1, this increase amounted to from 8 to 23 quintals per hectare.

The Spartanka variety, which was developed not too long ago at the Krasnodar Scientific Research Institute of Agriculture by the well known plant breeder Yu.M. Puchkov and his colleagues, is distinguished by many valuable properties. Its sowings ripen 5 days earlier than Bezostaya 1 and thus it is less subject to summer drought conditions. Spartanka has firm straw that measures 75-85 centimeters in length, it can reliably endure heavy ears and its sowings do not lodge even with record yields. In addition, the new variety is less susceptible to a number of dangerous fungus diseases and it is more drought resistant and winter-hardy. It is a very plastic variety. It is

suitable for cultivation both on dry land and also on irrigated arable land in many regions in the country's southern zone.

Ninety four quintals of grain per hectare -- such was the yield obtained from the strong Istok variety. It is considered to be a promising variety for the arid regions in the north Caucasus and Ukraine.

All of these varieties are classified as soft types of wheat. However, in recent years the students and co-workers of the eminent scientist P.P. Lukyanenko have altered the very nature of this winter plant and have used it to create durum varieties. Testing is presently being carried out on the Korund durum wheat variety, which is distinguished from its predecessor, the already regionalized Kristalla 2 variety, by a shorter growing season and by greater resistance against drought conditions, lodging and certain types of rust. The maximum yield obtained from the Korund variety at strain testing stations -- 79.6 quintals of amber grain per hectare.

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CSO: 1824/139

## MAJOR CROP PROGRESS, WEATHER REPORTS

### EDITORIALS COMMENT ON PREPARATIONS FOR 1987 GRAIN CROP

#### Concern for Grain Fields Expressed

Moscow PRAVDA in Russian 20 Dec 86 p 1

[Editorial: "Greater Concern for Grain Fields"]

[Text] Winter is at hand and the thoughts of the farmers concern the future harvest. In preparing for spring, they are placing their equipment in the proper order and laying away fertilizer and seed.

Figuratively speaking, grain is the nucleus of the Food Program. During the 27th Party Congress, the need for increasing grain production was stressed. It is expected that the gross grain yield will reach 250-255 million tons by the end of the 12th Five-Year Plan. A great deal has been accomplished in recent years towards intensifying the branch and strengthening its logistical base.

This year, as is known, the grain growers surpassed the average annual level for the past five-year plan by 30 million tons. But it is premature to compliment ourselves over the results achieved. The grain economy lacks stability and dynamism. For example, the kolkhozes and sovkhozes of the Ukraine have over a period of many years failed to cope with the plans for grain purchases. The return from the grain fields in Pskov, Ryazan and Saratov oblasts is low.

The grain "department" is still dependent to a considerable degree upon the weather conditions. Certainly, the arsenal of a grain grower contains many methods for reducing this dependency to a minimum. The winter crop fields require special concern. Owing to a shortage of moisture, the seedlings developed in a weak manner in a number of areas. The autumn sowing work was not carried out completely in all areas. Correct action is being taken in those areas where timely repair work is being carried out on the winter crop fields. In arid zones, the farmers are undertaking additional measures aimed at accumulating moisture. Snow retention work is being carried out and the plans call for a partial change in the structure of the areas under crops and for the selection of drought-resistant crops.

The intensive fields are raising the efficiency of the branch. They have produced an additional 24 million tons of grain. This is a considerable increase. But it could have been greater if there had been no serious deviations from the technology. The shortfall in output was associated with unskilled applications of fertilizer and plant protective agents and with poor labor organization. Hence the contrasts. The intensive sowings are being expanded by almost 5 million hectares. All resources allocated must be employed in a thrifty manner so as to ensure that the additional expenditures produce an appreciable gain.

The seed is quite properly referred to as the foundation for the harvest. Adequate amounts of seed have been placed in storage at a majority of the kolkhozes and sovkhozes. But it must still be improved to a high sowing condition. Seed is also required for resowing. Specialists are recommending the extensive use of corn and pulse crops. In this regard, they consider it advisable to review the purchase prices for grain mixtures. The possibility exists of increasing the corn areas noticeably on irrigated lands in the southern portion of the country.

At the moment, the equipment is not in use and thus it is a good time for placing all of the equipment in proper working order. The machine operators and repair workers in Ivanovo and Chelyabinsk oblasts decided to deliver all of their sowing and soil cultivation machines and a considerable portion of their grain harvesting combines to the readiness line in December. This work was also organized well on farms in Belorussia, Estonia and in Ulyanovsk and Penza oblasts. In the spring there will be no time for repairing the equipment. However, this fact is not recognized in all areas. The adjustment of equipment at kolkhozes and sovkhozes in Moldavia and in Gorkiy and Omsk oblasts must be accelerated. Many complaints have been registered regarding the quality of the preparation work carried out on machines at specialized repair enterprises. There is a shortage of spare parts. The rayons and oblast agroproms must exercise control over the use of petroleum products, deal more strictly with overexpenditures and encourage economies in their use.

The grain growers are counting upon receiving a great amount of assistance from their partners, particularly chemists. On a number of farms, only limited amounts of phosphorus and nitrogen fertilizers are being applied to the soil. There is a shortage of plant protection agents and the selection is not very good. The machine builders are under an obligation to the farmers. The amount of equipment available for mastering intensive methods is still very limited. The production of wide-swath fertilizer distributors and sprayers must be increased. There is a shortage of units for harvesting grain corn. Minselkhozmash [Ministry of Tractor and Agricultural Machine Building] must satisfy more completely the needs of the grain growers. At the same time, the production of some mechanisms can be organized successfully at repair enterprises of the agroprom.

The country's grain economy has large internal reserves at its disposal. A great amount of work remains to be carried out in the interest of strengthening the branch's economy and raising its output. During the last five-year plan, the investments in each hectare were raised noticeably and yet

the yields in a majority of areas remained as before. The production costs for grain and labor and resource expenditures are increasing. As mentioned in the decree of the CPSU Central Committee entitled "Urgent Measures for Raising Labor Productivity in Agriculture Based Upon the Introduction of Efficient Forms for Its Organization and Cost Accounting," considerable formalism and irresponsibility are being tolerated during the course of mastering cost accounting and the collective contract. Leading experience is not being studied adequately. For example, intensive labor collectives in Novosibirsk and Kurgan oblasts achieved high results. Here the output of machine operators surpassed the usual output by a factor of 3-4. Despite the obvious advantages, this example is still being followed by only a few.

The rayon and oblast agroproms consider the grain fields to be their chief endeavor. And there is good reason for this. They require more attention and their resources are greater. However, some RAPO's [rayon agro-industrial associations] are clearly failing to attach proper value to the zonal farming systems and are neglecting the intensive methods. At times, the rayon will impose a crop structure on the farms to the detriment of the harvest. Instead of specific assistance -- conferences are held. The agroproms must organize personnel training in all areas in the specific economics and leading technologies and they must ensure that each worker knows his assigned task to perfection. It is important for this training to be carried out in a differentiated manner, by professions and specialties, and directly on those farms where high results were achieved. The certification of agroprom leaders and specialists is mandatory.

Science must confront the needs of the grain growers. Together with the farm specialists, the scientists must control the status of the crops and solve the long-range problems of grain production in a more active and persistent manner. In particular, the farmers hope to be supplied with new and highly productive varieties which will be resistant to drought conditions, diseases and pests and which will respond to the use of intensive methods.

The status of affairs out on the grain fields can only alarm each agricultural communist. The party organizations must instill in the farmers, in a more persistent manner, a sense of being in charge, and they must support initiative and enterprise and encourage the desire to employ new methods. The personal responsibility of leaders and specialists for the output realized from grain fields must be raised and a campaign must be waged against parasitism and against the desire on the part of some managers to obtain as much grain as possible from state resources, while showing no concern for raising the yields.

The first year of the five-year plan is coming to a close. It was the first in the biography of a unified agroprom. Many of the goals were achieved. However, more complicated tasks still lie ahead. Today the agricultural workers are striving to obtain solutions for these tasks, while laying the foundation for the future harvest.

## Increased Effort Required

Moscow SELSKAYA ZHIZN in Russian 6 Jan 87 p 1

[Editorial: "Increased Effort in Behalf of the Harvest"]

[Excerpts] During 1987, workers attached to the country's agro-industrial complex must achieve new and higher indicators in their work and in raising the quality of their products. Not less than 232 million tons of grain, 7.6 million tons of oil-bearing seed, 91.6 million tons of sugar beets, 148 million tons of feed units from coarse and succulent feed and many other field crop husbandry products must be obtained at the kolkhozes and sovkhozes. Increases must take place in the production of meat, milk and eggs and the population must be supplied with adequate quantities of food goods and industry -- with raw materials.

Kolkhoz members, sovkhoz workers and all APK [agro-industrial complex] collectives must devote a great amount of effort if these levels are to be achieved. As emphasized in the new year address to the Soviet people by the General Secretary of the CPSU Central Committee M.S. Gorbachev, nobody else will do anything for us or solve our tasks and problems. We must do all of this ourselves. And this means that each one of us must increase our work effort and do so in a thorough manner. Only in this manner will it be possible to celebrate the 70th anniversary of the Great October with considerable labor achievements.

An increase in work effort! This appeal by our party must serve as a motto for all APK workers engaged in laying the foundation for the harvest. Here we have in mind the need for ensuring that all winter agro-technical measures are carried out in an exemplary manner at each kolkhoz and sovkhoz and in each rayon, oblast and republic, that complete preparations are made for the spring sowing work, that improvements are realized in the fertility of each hectare and that increases are achieved in the production of grain, forage, technical, vegetable, fruit and other crops. However, the prevailing weather situation does not favor these possibilities in all areas. The party organizations, farm leaders and specialists and all farmers are under an obligation to eliminate existing shortcomings, to raise responsibility for the complete use of existing opportunities and reserves, to improve the structure of the areas under crops and in this manner to guarantee the unconditional fulfillment of the plans for state purchases of all types of products.

The winter crops must be an object of special concern. Owing to dry conditions during the autumn period, a portion of the planned areas was undersown and some fields produced no seedlings whatsoever. This is why all measures should be taken aimed at ensuring thorough tending of the plants: snow retention work should be carried out and supplies of nitrogen fertilizer for applying top dressings, growth regulators and plant protection agents should be accumulated. In order to prevent a reduction in the production of bread grain, opportunities should be sought on the farms for expanding the sowings of highly productive varieties of spring wheat, corn, barley and millet.

In this regard, the kolkhoz and sovkhoz leaders and the agronomists must display timely concern for the seed: complete exchange operations, recovery of grain from state resources and improving it to a high sowing condition. Unfortunately, adequate attention is not being given to the golden fund of the harvest in some areas. In Perm, Sverdlovsk, Tyumen and Vologda oblasts, one half of the seed checked does not meet the standard requirements. There is very little 1st or 2d class seed. In Lithuania and Latvia, for example, there are fewer quantities of this seed than was available during the winter of 1985. One cannot fail to note the low quality of the seed at enterprises of USSR Minkhleboproduktov [Ministry of Grain Products]. By December, only 60 percent of the seed had been improved to sowing condition. In the process, one tenth of the supplies did not meet the requirements for 1st class. On farms and at specialized enterprises, there should be no relaxation of effort in the matter of improving the quality of seed for corn, sunflowers, peas, soybeans, sugar beets, cotton, flax, vegetable crops and grasses.

The course of the spring field work is largely dependent upon the readiness of the equipment. The repair of machines is being carried out in an organized manner in Belorussia and in Ulyanovsk and Bryansk oblasts. Meanwhile, a considerable number of sowing machines, cultivators and plows have not been placed in operation on farms in Moldavia, Turkmenia and in Kurgan and Dzhambul oblasts and this can only adversely affect the schedules for and the quality of the soil cultivation and sowing operations. Repair work on irrigation equipment and hydraulic engineering installations has fallen behind in Uzbekistan and Tajikistan. And indeed, the irrigation season is near at hand.

This year will become a year devoted to the mass use of intensive technologies. New methods will be employed in the cultivation of agricultural crops on almost 36 million hectares. An expansion of the areas must be accompanied in all areas by active personnel training and serious organizational work in the various areas. At the present time, as never before, importance is being attached to accumulating adequate quantities of organic and mineral fertilizer and to employing the most efficient methods for applying them. Due importance must also be attached to the liming of acid soils, to using peat in the preparation of composts and to carrying out snow retention work.

In joining in the competition to worthily prepare for the 70th anniversary of the Great October, each APK worker must increase his work effort and devote all of his efforts to creating high yields for the second year of the five-year plan.

#### 1987 Grain Plan Discussed

Moscow SELSKAYA ZHIZN in Russian 3 Feb 87 p 1

[Editorial: "Concern for the Grain"]

[Text] A principal condition for creating strong food and forage resources for the state is that of achieving a maximum increase in grain production. This year we must obtain not less than 232 million tons of grain and by the end of the five-year plan -- 250-255 million tons. The practical

implementation of this task is a priority concern of the kolkhozes, sovkhozes and all collectives of the agro-industrial complex. The reality of the plans advanced is confirmed by the positive results achieved in development of agriculture's principal branch during the past season, when the second highest yield in the country's history was obtained -- 18 quintals per hectare and the fourth highest in terms of the gross grain yield -- more than 210 million tons. And this occurred despite complicated weather conditions in a number of regions. At the present time, importance is being attached to surpassing the results already realized and to achieving new and perceptible results in carrying out the decisions handed down during the 27th CPSU Congress and the tasks of the Food Program.

One of the most important stages along the path to achieving this goal is the forthcoming period of spring field work. The volume of this work is increasing considerably as a result of undersowing, damage to a portion of the winter crops and an increase in the spring crop areas. This is why, in the time remaining before spring, the kolkhozes and sovkhozes must carry out a broad complex of measures in connection with making timely preparations for sowing and creating reliable prerequisites for the 1987 harvest. No detail however small must escape the attention of the farm leaders and specialists, the party organizations or all of the farmers.

As emphasized during a recent conference in the CPSU Central Committee, priority importance must be attached to the problem of increasing grain production in all areas. It is important for this circumstance to be taken into account when examining the structure of the areas under crops and the working plans at each kolkhoz and sovkhoz. Here we have in mind the need for compensating for a possible shortfall in grain, caused by complications out on the winter fields, by expanding the areas allocated for more productive varieties of spring wheat, grain corn, millet, buckwheat, pulse crops, barley and oats. This is precisely the procedure being employed on farms in Shebekinskiy, Rakityanskiy, Volokonovskiy and other rayons in Belgorod Oblast, where they are retaining and increasing the grain crop areas and actively carrying out winter agricultural measures aimed at increasing the fertility of the land. The same holds true for other Orel, Kursk, Altay and Cherkassy kolkhozes and sovkhozes.

The intensive technologies must be introduced into operations out on the fields in a serious and energetic manner. The results of previous years reveal that these technologies have produced 24 million additional tons of grain. In the Ust-Labinskii Rayon in the Kuban region, a yield of 54 quintals of grain per hectare was obtained and the brigade headed by twice-decorated Hero of Socialist Labor Mikhail Klepikov -- 65.5 quintals. At the same time, many examples could be cited revealing how poor use was made of the potential offered by the intensive technologies and also of a low return from them. Such was the case on some farms in Rostov, Voronezh and Odessa oblasts. At the present time, a requirement exists for eliminating these negative phenomena. This year the spring and winter crops will be cultivated using the new methods on an area in excess of 36 million hectares. USSR Gosagroprom [state agroindustrial committee] and its organs in the various areas, kolkhoz and sovkhoz leaders and party committees must do everything possible to ensure that an expansion in the areas is accompanied by active personnel training and

a great amount of organizational work and that the farms are supplied with modern equipment, fertilizer and plant protective agents. A most important consideration is the need for ensuring that each field has its own true master, an individual who is capable of carrying out all technological operations in a skilful and efficient manner and of obtaining high yields. The generosity of the grain fields will depend to a considerable degree upon the type of grain crop seed placed in the soil. The availability of good seed will make it possible to surpass the plan for spring sowing. But this is on a general scale. If we examine the availability of good seed for individual rayons and farms, then here we encounter appreciable contrasts. A number of kolkhozes and sovkhozes lack seed for durum wheat, buckwheat, millet and peas and, in addition, the quality is not in keeping with the standard requirements in all areas. This is why exchange operations and the selection of seed from state resources must be carried out without delay. However, the shipping of seed peas and barley from the Ukraine to other areas is being delayed. Minkhleboprodukt [Ministry of Grain Products] for this republic is disrupting the deliveries of early-ripening corn hybrids to farms in the RSFSR, Lithuania, and Belorussia. Only slowly is seed oats being shipped to consumers from the Russian Federation. More than one third of the grain and pulse crop seed in Sverdlovsk, Kurgan and Kostroma oblasts is of sub-standard condition and in Kirghizia -- more than one fifth. Importance is being attached to correcting the shortcomings more rapidly and to preparing as much 1st class seed as possible for the more productive varieties and hybrids.

An urgent task is that of raising the fertility of our arable land. Unfortunately, a tense situation has developed in some areas in connection with ensuring that the farms are supplied with mineral fertilizer, pesticides, retardants and defoliants. Just as in the past, the Fergana and Rustavi "Azot" PO's [consumers' societies], the "Estonfosforit" PO and the Rossosh Chemical Plant have fallen behind and are supplying low quality mineral fertilizer. A special requirement is being experienced for phosphorus mineral fertilizer. In the interest of achieving more thrifty and efficient use of this fertilizer, it is considered advisable for it to be applied locally, directly to the rows during the sowing of spring crops. The liming of acid soils and the gypsuming of solonetz soils must be intensified and the use of organic fertilizer must be increased sharply. More than 600 million tons should be brought up and applied during the winter-spring period alone.

The increasing volume of work out on the spring fields can be carried out successfully provided the farms are given better support in the form of equipment and in the carrying out of timely repair work on machines. The field crop growers have registered fair complaints against the enterprises of Minsekhozmash [Ministry of Tractor and Agricultural Machine Building] for having failed to fulfill orders for the delivery of equipment needed for applying fertilizer, wide-swath cultivators and other items of equipment. Fifteen percent of the tractor pool has still not been placed in operation.

This year the crops may receive abundant amounts of winter precipitation. Concern must be displayed for ensuring that each kolkhoz and sovkhoz arranges the snow into windrows, rolls it crosswise to the slopes, retains thaw water and accumulates such water in ponds and reservoirs. The cleaning of the irrigation systems must be completed more rapidly and thorough preparations made for the irrigation season. The farm containers for fuel and lubricating materials must be completely filled prior to the commencement of field operations.

## LIVESTOCK AND FEED PROCUREMENT

### MORE EFFECTIVE BREEDING SERVICE OPERATIONS RECOMMENDED

Moscow SELSKAYA ZHIZN in Russian 7 Feb 87 p 2

[Article by Tengiz Grigoryevich Dzhaparidze, chief of a sub-section on breeding work, selection centers and breeding farms of USSR Gosagroprom, Doctor of Agricultural Sciences: "Genetic Fund"; first paragraph is source introduction]

[Text] As is known, in December of last year the CPSU Central Committee and the USSR Council of Ministers adopted the decree entitled "Measures for Raising the Effectiveness and Improving the Organization of Breeding Work in Animal Husbandry." The Editorial Board asked the chief of a section on breeding work, selection centers and breeding farms of USSR Gosagroprom [State Agro-Industrial Committee], Doctor of Agricultural Sciences Tengiz Grigoryevich Dzhaparidze, to comment upon this important decree.

Over the past 10 years, more than 300,000 pedigree and improved heifers and non-calving young cows have been brought in from other regions of the country and delivered to farms in Uzbekistan. This was sufficient for replacing completely the brood stock on a majority of the republic's farms. It would seem that this would have served to raise the milk yields sharply. Indeed, the offspring imported were from highly productive animals. But the expectations were not justified. The productivity of the cows remains low -- approximately 2,140 kilograms.

Nor was this situation peculiar only to Uzbekistan. During these same years, more than 400,000 heifers and non-calving young cows were imported into the Kazakh SSR and for farms in Georgia and Azerbaijan -- in excess of 100,000. But the tremendous annual state expenditures involved did not produce the expected results. What explanation can be given for the fact that large-scale measures carried out over a period of more than 25 years have still not produced noticeable advantages?

The first and chief reason, if you please -- poor reproduction and raising of replacement young stock. The young animals are being fed poorly, they are growing and developing slowly and, as a result, they cannot be used for reproduction purposes for a year or more. This is disrupting the technological and biological regime for the use of dairy cattle and it is costing the farms dearly. On farms in the Russian Federation, there are more

than 1.3 million such animals, or approximately 30 percent, in the Ukraine there are approximately 500,000 and in Kazakhstan -- 146,000, or 27 percent of the dairy herd. And in Uzbekistan and Georgia, four out of every five heifers are being kept too long, in Azerbaijan -- 75 percent and in Turkmenia -- 85 percent.

The second factor holding back the creation of an effective breeding base is the low level of the zootechnical work being carried out at breeding farms and plants. In many instances, the productive and pedigree qualities of the animals are not too high at these facilities. This is not surprising. Even state breeding plants, which have elite herds of the best domestic strains at their disposal, are overburdened with production plans which do not conform to their production specialization. A deterioration has taken place in the feeding of the animals. And indeed there is some truth to the statement that "A pedigree commences with what passes through the mouth." And thus the breeding farms are in the process of losing their identity.

These negative phenomena must not be allowed to continue. In their decree, the CPSU Central Committee and the USSR Council of Ministers tasked the party, soviet and economic organs with devoting greater attention to the work of the breeding farms, especially state breeding plants, and subordinating their production activity to obtaining and raising high quality young stock.

Under modern conditions, importance is being attached to using the more valuable strains and also selection methods which make it possible to create highly productive dairy herds. Here we mainly have in mind the use of Holstein cattle for improving the black-variegated strain. At base farms, where large numbers of improved cattle are being created, hybrid first heifers are furnishing 4,000 or more kilograms of milk during lactation under good feeding conditions. At the present time, there are 770,000 pure-bred and improved Holstein cows in the country. In terms of milk yield, they surpass the black variegated strains of the same age by 250-300 kilograms of milk during lactation. Increases are taking place in the milk productivity and offspring of Simmental cows as a result of their being crossed with red-variegated Holsteins. The average increase during lactation has exceeded 700 kilograms or 25 percent. However, there are still not very many lactating cows of this particular combination of genotypes. The best farms for the breeding of hybrids include the state breeding plants imeni Lenin in Tambov Oblast (a milk yield of 4,701 kilograms) and Shamrayevskiy in Kiev Oblast (4350 kilograms) and the Breeding Sovkhoz imeni Lenin in the Mordovian ASSR (4,840 kilograms).

In our country, it is considered advisable to make extensive use of black-variegated Holstein bulls with brood stock of the black-variegated strain. In the zone for the breeding of Simmental cattle, it is recommended that a portion of the cows be crossed with red-variegated Holstein bulls. Plans call for the genetic potential of the red strains to be raised both through pure-bred breeding and through use of sire-bulls of the red Danish and Anglerskaya strains; brown domestic strains -- using bulls of the specialized dairy type of Shvitskiy cattle.

It is completely obvious at the present time that the use of Holsteins for improving dairy cattle must invariably be accompanied by the creation of good feeding and maintenance conditions for the animals. The feeding base must remain ahead of improvements in the genetic potential of the herd. If the feeding level for cows on a farm calls for an average of only 40-55 quintals of feed units annually, then no success can be expected in the use of Holsteins. In the process, the rations should include a minimum of 2 tons of hay annually per cow and 1 ton of beets (the best mangel wurzel) for each ton of milk obtained. This work must not be started in those areas where these conditions are not available. Thus USSR Gosagroprom persistently recommends the following: prior to commencing the creation of highly productive herds involving the use of Holsteins, a program for breeding a dairy herd over the next few years should be developed and approved in each oblast, kray or autonomous republic. It must be clear, specific and small in volume. A chief aspect of these programs will be the appendices -- containing the annual parameters for each farm, for the cow productivity and feed availability needed for obtaining the assigned productivity.

At the same time, in order to maintain the gene fund for domestic strains, it will be necessary to organize pedigree breeding at state breeding plants and breeding farms, where better herds are available. Herds of such local strains and offspring as red gorbatovskaya, bestuznevskaya, istobenskaya, local Estonian, grey Ukrainian, suksunskiy and Yakut cattle, knevsurskiy and red megrelikiy cattle are also available for pure-bred breeding purposes.

It is obvious that breeding work is by no means confined to inter-strain crossings. It is known that genetic progress in animal husbandry is ensured through the use of outstanding sire-bulls which have been tested in terms of the quality of their offspring. They must be used as a rule in breeding herds. In marketable animal husbandry characterized by a productivity level of 2,500-3,000 kilograms of milk per cow, it is possible to use sires which have not been checked in terms of the quality of their offspring but which were obtained from highly productive parents.

I believe that the time is at hand for the gosagroproms of Georgia, Armenia, Azerbaijan, Turkmenia and a large number of agroproms in oblasts of the RSFSR to convert over to importing more valuable material from artificial insemination enterprises in Moscow Oblast, the Baltic republics and the Ukraine. It is time to study in detail the bulls that are available on the farms. The farms in a large number of oblasts in Kazakhstan and the Russian Federation are maintaining many bulls the breeding qualities of which are quite often unknown. They are being used in an unsystematic manner and quite often they are the reason for the spread of infectious diseases. Those farms where for various reasons artificial insemination should not be employed should be pointed out. In such herds, officially and not secretly as is so often the case, use should be made only of pedigree sires, strict regimes for feeding and maintenance should be observed and appropriate veterinary services should be organized. First of all, this will make it possible to reduce sharply the excessively large number of bulls that is being maintained in behalf of the dairy herd. Secondly, it will eliminate distortions in reports issued on artificial insemination and thirdly it will reduce the work volumes

associated with the raising, sale and transporting of pedigree bulls, which are increasing with each passing year.

Domestic zootechny, farm workers, the services of Gosagroprom and animal husbandry scientists have adequate resources, knowledge and a gene fund for dairy cattle at their disposal and thus they should be able to create highly productive herds more rapidly and increase in a steady manner the production of animal husbandry products.

7026

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## LIVESTOCK AND FEED PROCUREMENT

### LIVESTOCK PROCUREMENT REGIONAL PROGRESS DISCUSSED

Moscow EKONOMIKA SELSKOGO KHOZYAYSTVA in Russian No 1, Jan 87 pp 84-86

[Article by R. Tabayev, chief specialist at the Administration for Improvement in the Economic Mechanism and Price Formation at USSR Gosagroprom, and V. Bazilevich, leading management specialist: "Economic Interrelations of Animal Husbandry Sectors With the Procurement and Processing Sphere in the Country's Agro-Industrial Complex"]

[Text] A meeting organized by the Administration for Improvement in the Economic Mechanism and Price Formation at USSR Gosagroprom and by the pavilion of the USSR National Economic Achievements Exhibition "Economics and Organization of the Agro-Industrial Complex" was held at the USSR National Economic Achievements Exhibition. Problems concerning the direct acceptance of milk, livestock, and poultry on kolkhozes and sovkhozes and their delivery by transport facilities of procurement organizations were discussed.

Managers and specialists of the interested structural subdivisions of the USSR Gosagroprom, gosagroproms of Union and autonomous republics, oblast (kray) agro-industrial committees, and RAPO, managers of kolkhozes and sovkhozes, and associates at scientific research institutes were present at the meeting.

A. P. Zavgorodniy, chief of the Administration for Improvement in the Economic Mechanism and Price Formation of the USSR Gosagroprom, presented the report "On the Further Improvement in Production and Economic Relations Between Farms Producing Livestock Products and Enterprises and Organizations Procuring and Processing Them Under the Conditions of Activity of New Bodies for the Management of the Country's Agro-Industrial Complex."

He shed light on matters concerning an improvement in the integration between enterprises and sectors of the agro-industrial complex, paying special attention to problems related to the coordinated work of its links and avoiding losses, spoilage, and deterioration of the quality of agricultural products at all the stages of production, procurement, transportation, processing, and storage, as well as direct acceptance at places of production and its economic efficiency.

The speaker noted the positive shifts in the implementation of measures aimed at changing over to advanced forms of procurements of agricultural products.

For example, in 1985 in the country 36 percent of the livestock and poultry, 33 percent of the milk, 27 percent of the potatoes, and 34 percent of the vegetables in the total procurement volume in the public sector were accepted directly at places of production and delivered by transport facilities of procurement organizations. The positive experience of the Lithuanian SSR, where more than 70 percent of the livestock and poultry are accepted directly at places of production and delivered by transport facilities of procurement organizations, deserves attention. The changeover to the advanced form of purchases of livestock products is most actively carried out in the Belorussian SSR, in Belgorod Oblast and Stavropol Kray in the RSFSR, in Ternopol and Ivano-Frankovsk oblasts in the Ukrainian SSR, and in a number of other oblasts and republics.

The advanced experience of farms in the introduction of progressive procurement forms contributes to a more efficient utilization of material and labor resources and to a decrease in losses and spoilage of products.

For example, in the Ukrainian SSR, according to calculations by the Ukrainian Scientific Research Institute of Economics and Organization of Agriculture imeni A. G. Shlikhter, the changeover to centralized milk delivery enabled agricultural enterprises to reduce the expenditures on these purposes and to save substantial funds in the national economy in the last 5 years. The cost of milk and livestock delivery by transport facilities of specialized motor depots is lower by a factor of 1.7 to 2 as compared to the cost of delivery by transport facilities of farms.

However, the direct acceptance of agricultural products on farms is introduced slowly in the country. For example, in the Estonian SSR in 1985 only 6 percent of the livestock and poultry were delivered by transport facilities of procurement organization, in the Turkmen SSR, 3 percent, and in the Tajik SSR, 6 percent. Centralized milk delivery in the Turkmen SSR made up 5 percent, in the Uzbek SSR, 15 percent, and in the Azerbaijan SSR, 20 percent.

This is partially due to the fact that accounts for livestock accepted on kolkhozes and sovkhozes are settled by meat industry enterprises after slaughtering, but losses resulting from keeping livestock at preslaughtering centers too long and from mismanagement in the slaughtering shop are fully placed on kolkhozes and sovkhozes. According to the data of the Belorussian Scientific Research Institute of Experimental Veterinary Medicine imeni S. N. Vyshelesskiy, the killing-out percentage in hogs processed immediately after delivery to a meat combine made up 63.5 percent, but after they were kept at a meat combine for 18 to 24 hours, 57.6 percent.

Furthermore, the report noted the insufficient provision of farms with the material and technical base for transferring livestock products to centralized delivery.

In his report T. Yu. Pashkauskas, director of the Panevezhis Meat Combine, discussed the experience in the organization of direct acceptance of livestock products at places of production in the Lithuanian SSR. There in the last few years work was done on changing over to the direct transfer and acceptance of

livestock on kolkhozes and sovkhozes and its delivery by the meat processing industry's specialized motor transport facilities. Farms were provided with the necessary equipment, loading sites, scaffold bridges, and pens for sorting livestock. Old roads were repaired and new roads and motor access ramps to livestock sections were built. Bases for keeping livestock prior to slaughtering and departments for washing and disinfecting livestock vans were reequipped at most meat combines. Acceptance clerk drivers were selected and trained in courses. The acceptance of livestock and settlement of accounts for it are based on the animals' live weight and fatness determined on farms.

The establishment of an appropriate material and technical base on farms and at meat industry enterprises in the republic, as well as other adopted measures, in 1985 made it possible to carry out the transfer and acceptance of livestock directly at places of its production on 92 percent of the kolkhozes and sovkhozes with subsequent centralized delivery.

The Panevezhis Meat Combine directly accepts livestock on 98 farms. On the average, one livestock van delivers 1,700 tons of livestock annually. In 1985 the enterprise fulfilled the centralized delivery plan 101.7 percent.

N. I. Ushakov, general director of the Belgorod Dairy Industry Association, shared his practical experience in the organization of milk acceptance at places of production. In December 1982 the Belgorod Oblast Party Committee developed and approved a program for accelerating the introduction of direct relations with dairy industry enterprises. In the oblast milk units were built and reconstructed, refrigerating installations, milk coolers, and milk tanks for the storage of cooled milk were installed, and heavy-freight specialized motor vehicles for milk transportation were allocated from agricultural stocks for dairy industry enterprises.

To increase the efficiency and to ensure a stable functioning of direct relations and the transportation of raw materials at minimal transport costs, precise milk acceptance schedules were introduced. As a result of the work done, in 1983 virtually all the oblast's kolkhozes and sovkhozes were transferred to direct relations with dairy industry enterprises. In 1985 the volume of direct acceptance of milk on kolkhozes and sovkhozes and of its shipment by the dairy industry's transport facilities made up 94.7 percent. With the changeover to milk acceptance at places of production farm expenditures on its delivery were reduced by more than one-half and the oblast's kolkhozes and sovkhozes obtained additional payments for an improved quality of output.

In his speech "Organization of Centralized Shipments in the Republic" G. N. Timokhin, deputy chief of the Shipment Administration of the Belmyasomoltrans Production Administration of Motor Vehicle Transport of the Belorussian SSR Gosagroprom discussed the work done on concentrating specialized rolling stock at motor transport enterprises, which formed part of the Production Administration of Motor Transport of the Belorussian SSR Gosagroprom. This administration was entrusted with tasks concerning the centralized delivery of livestock products for processing and teaching driver personnel the rules of transfer and acceptance of livestock and milk and an efficient utilization of specialized transport.

A total of 20 cost accounting motor vehicle enterprises with 74 affiliates located in rayon centers were established in the republic.

In order to increase the efficiency of utilization of transport facilities in centralized shipments of livestock and milk, an appropriate material and technical base for the storage, repair, and technical servicing of motor vehicles was established and standard garages were built and equipped there.

All motor transport enterprises have been transferred to cost accounting and driver personnel work on the basis of a brigade contract, which ensures an increase in the efficiency of motor transport utilization. In 1985 production per specialized motor vehicle, as compared with the 1980 level, rose by 34.6 percent, their on-line output coefficient increased by 6.8 percent, and the freight capacity utilization coefficient, by 2.2 percent.

The experience in the acceptance of livestock products on farms and in their delivery by the departmental cost accounting motor pool accumulated in the republic shows that this procurement form is advantageous both for kolkhozes and sovkhozes and for processing industry enterprises. Centralized milk transportation has a positive effect on a rise in the production standard at livestock sections and on an improvement in the quality of products. In 1985 the sale of first-grade milk, as compared with the 1980 level, increased by 30 percent, owing to which kolkhozes and sovkhozes additionally obtained a substantial income.

The economic efficiency of the direct acceptance of livestock products on farms and their delivery by transport facilities of procurement organizations, increase in effectiveness in the fight for the quality of products, reduction in losses during delivery and processing, and efficient utilization of labor and material resources were the basic topics in the speech by P. B. Vovchuk--chairman of the Lanovetskiy Rayon Agro-Industrial Association in Ternopol Oblast. During the 11th Five-Year Plan the sale of first-grade milk reached 95 percent and of cooled milk, 88.7 percent. For cooled milk and for an improvement in its quality the rayon's kolkhozes additionally obtained substantial funds. Centralized milk delivery from farms by transport facilities of the dairy industry enabled the rayon's farms to release motor transport, drivers, and dispatchers and to reduce the wage fund. Expenditures on the purchase and additional outfitting of livestock sections with equipment to ensure centralized milk delivery were recovered within 1.5 years.

On the rayon's farms centralized livestock delivery is carried out by transport facilities of Agropromtrans according to coordinated schedules. In 1985 the share of livestock delivered by the meat industry's transport facilities made up about 74 percent in the total procurement volume.

The speech by Ya. V. Zhigarevich, deputy chief of the State Inspectorate for the Quality of Products and Standardization of the Belorussian SSR Gosagroprom, was devoted to an accelerated introduction of the transfer and acceptance of livestock products at places of production, to their delivery by the meat and dairy industry's transport facilities, and to the effect of the advanced procurement form on an improvement in the quality of products. For

example, with the transfer of Belorussian SSR sovkhozes to centralized delivery during the last two five-year plans the average live weight per head of cattle sold to the state increased by 79 kg, totaling 411 kg. The cattle of a higher degree of fatness sold to the state in 1985 made up 76 percent, as compared to 64 percent in 1984. During the 11th Five-Year Plan the content of fat in milk increased by 0.12 percent, making up 3.44 percent. For selling cooled milk to the state, improving its quality, and delivering heavy-weight young cattle to the state during the 11th Five-Year Plan farms obtained substantial payments in addition to the basic sale price.

R. Z. Bayazitov, chairman of the Tuymazinskiy Rayon Agro-Industrial Association in the Bashkir ASSR, shared his practical experience in the organization of purchases of livestock products at places of production and of centralized delivery by transport facilities of the meat and dairy industry. He noted that the establishment of an appropriate material and technical base, as well as a number of other adopted measures, enabled the rayon to accept the entire planned volume of purchases of livestock products in the public sector directly at places of production and to deliver them by the meat and dairy industry's transport facilities.

With the changeover to the new procurement form kolkhozes and sovkhozes in this rayon improved the quality of products significantly. Whereas before 1979 first-grade milk sold to the state by all farms made up only 30 percent of the sales volume, as of 1979 it comprised 90 or 91 percent.

The speech by Candidate of Economic Sciences A. S. Mysheleva, head of a sector at the Belorussian Scientific Research Institute of Economics and Organization of Agriculture, was devoted to problems of economic efficiency resulting from the introduction of advanced forms of procurements of agricultural products. She noted that centralized delivery as an improved, as compared with self-delivery, form of organizing the utilization of specialized transport on the basis of its concentration in combination with local acceptance should be not only widely introduced into production, but its economic advantages should be utilized in an all-around manner.

Ensuring the necessary synchronism in the economic operation of transport organizations and processing enterprises and strictly observing the standard length of all operations of the transport-procurement process are the main potentials for increasing the economic efficiency of centralized delivery. The goal set can be attained if the transport-procurement process is managed by means of an optimal hourly schedule, which is being developed experimentally at the Mogilev Meat Combine and on farms of its raw material zone as of 1985.

Other managers and specialists of agro-industrial committees, RAPO, and farms also took part in the discussion of the problems set forth.

In their speeches participants in the meeting noted the existing difficulties in introducing advanced forms of organizing the transfer and acceptance of livestock products.

The insufficient provision of kolkhozes, sovkhozes, and dairy industry enterprises with the material and technical base for organizing the acceptance of products directly at places of production with subsequent centralized delivery by specialized motor transport facilities is the main difficulty. The conditions for ensuring the acceptance of milk separately according to grades and for accumulating and cooling skim milk have not been created at all dairy industry enterprises.

The volume of purchased and transported heavy-weight livestock is stably growing in the country. For the transportation of such livestock it is necessary to have strong and reliable livestock vans, which would ensure the safety of livestock en route. However, the semitrailers for livestock vans manufactured by industry are of a low quality and are not suitable for further operation without additional expenditures on remodeling them. In connection with this newly arriving livestock vans are completely remodeled at meat industry and transport enterprises.

Transport enterprises encounter difficulties in the repair and preventive maintenance of specialized transport facilities. Their orders for spare parts, motor vehicles, and storage batteries are filled only 40 to 50 percent.

It is necessary to accelerate the revision and introduction of appropriate changes in and supplements to instructions presently in effect and other normative acts (of grain receiving enterprises, of the railroad, and of river steamship companies) and instructions for the acceptance of livestock, poultry, milk, and so forth regulating an increase in the responsibility of ministries and departments for the safety and quality of grown products.

Suggestions concerning an improvement in economic interrelations of kolkhozes and sovkhozes with procurement and processing enterprises were expressed. They will be utilized in subsequent work during the drawing up of normative documents.

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## MACHINERY, EQUIPMENT

### SECTOR HEAD CRITIQUES EQUIPMENT REPAIR PROGRESS

Moscow TEKHNIKA V SELSKOM KHOZYAYSTVE in Russian No 12, Dec 86 pp 3-5

[Article by A.A. Georgobiani, head of a sector at USSR Gosagroprom: "Timely and High Quality Preparation of Equipment -- A Chief Task of Agricultural Repair Workers"]

[Text] The year 1986, the first year of the five-year plan and a year of tense labor by agricultural workers under the new system for administering the agro-industrial complex, is coming to a close.

The creation within the framework of USSR Gosagroprom [State Agro-Industrial Committee] of a single engineering service has had a positive effect on accelerating the development of many questions concerned with mechanization, including the preparation of the MTP [machine-tractor pool] for field operations.

The rates for the preparation of agricultural equipment for field operations in 1986 were higher than they have been in the past. For the country as a whole, 93 percent of the tractors had been prepared for the start of spring field operations, including 91 percent of the K-700 type tractors. These figures were somewhat higher than the indicators for the previous year. Roughly 98-99 percent of the soil cultivation and sowing machines had been placed in good operating condition prior to the beginning of the spring work. The level of readiness of machines for applying fertilizers, protecting plants, spraying, feed procurement and harvesting equipment exceeded the figure for the previous year by 1-4 percent.

Organizationally, the repair of equipment was carried out by the gosagroproms of the Lithuanian SSR, Latvian SSR, Estonian SSR, Belorussian SSR and the Ukrainian SSR and by agro-industrial associations in Bryansk, Moscow, Tula, Ulyanovsk, Lipetsk, Rostov, Omsk and other oblasts and in Krasnodar and Stavropol krays.

At the same time, it should be mentioned that the timely preparation of equipment for the work seasons is not the rule in all areas.

Prior to the spring of 1986, there were 36,500 K-700 and T-150K type tractors that were in need of repair. Roughly 13-15 percent of the T-150K tractors on

farms in the Moldavian SSR and in Ryazan and Tambov oblasts had not been prepared for operations. In some republics and oblasts, the machines used for applying fertilizers and protecting plants were prepared in a very slow manner. This applies to many farms in the northwestern region of the RSFSR and in Smolensk, Perm, Orel and other oblasts.

This year the task consisted of preparing the feed procurement equipment during the winter period. Unfortunately, many regions failed to cope with this task. In some republics and oblasts, a considerable number of feed procurement machines remained in need of repairs throughout the period of mass feed procurements. For example, approximately 20,500 silage and feed harvesting combines and 10,300 pick-up balers, or 14 and 12 percent respectively of the number available, were not prepared for operations and in the Moldavian SSR -- 10 percent of the pool of silage and feed harvesting combines.

In Ryazan Oblast, 13 percent of the mowing machines, 21 percent of the pick-up balers and 13 percent of the silage and feed harvesting combines remained inoperable. In Tambov and Saratov oblasts, 13 and 16 percent of the pool of silage and feed harvesting machines were not prepared for operations.

During the grain harvesting period, 52,000 grain harvesting combines, including 33,300 on farms in the RSFSR, remained idle. The preparation of grain harvesting machines was carried out at low rates in Orel, Ryazan, Gorkiy, Kirov, Penza, Zaporozhye, Kharkov, Chernigov and some other oblasts.

This situation resulted from the fact that on many farms the repair of equipment was started not in October but rather in December of January. This later created a great amount of tension and it disrupted the operational stability of the repair enterprises.

Timely measures are not being undertaken in connection with preparing the workshops of farms and rayon RTP's [repair-technical enterprises] for winter operations, staffing them with permanent skilled personnel or supplying them with the needed equipment, instruments and documentation. Quite often, the farms lack the plans and schedules required for preparing their machines and agreements for production-technical servicing by RTP's are concluded in a very untimely manner.

The present time, with the field work having been completed on a majority of the farms, is a very important period -- the mass unfolding of repair operations and the preparation of MTP's for field operations. So as not to repeat past mistakes and in the interest of ensuring that all agricultural equipment is prepared for next year's operations in a timely and high quality manner, USSR Gosagroprom [state agroindustrial committee] has assigned the task of completing repair work, prior to 1 January, on the soil cultivation and sowing machines and prior to 1 April -- on feed harvesting equipment on farms in the republics of Central Asia, the Trans-Caucasus, Ukrainian SSR, Moldavian SSR and the southern oblasts of the RSFSR and prior to 1 June -- to complete the repair work on grain harvesting combines in all oblasts, krays and republics, excluding the eastern oblasts of the RSFSR and the northern oblasts of Kazakhstan, where this schedule was established to be carried out

prior to 1 August. Roughly 92-95 percent of the tractors available in the pool must be moved up to the readiness line no later than 2 weeks prior to the start of the spring field operations.

In order to prepare all of the MTP's of kolkhozes and sovkhozes for the 1987 field operations, it was necessary to include immediately in this work, in keeping with the established schedules, the existing repair base at the farms and service enterprises. The repair plants, specialized workshops, general purpose workshops of rayons RTP's and the workshops of farms had to operate at maximum capability during the winter period. Only if this was done, could the task be completed successfully.

Moreover, the work had to proceed based upon the capital repair of equipment, units and assemblies being carried out as a rule at specialized repair enterprises and other types of repair work and technical services -- at central repair workshops and technical servicing points of farms or at technical servicing stations and in general purpose repair-technical enterprises of RAPO's [rayon agro-industrial associations].

Within the USSR Gosagroprom system, there are more than 49,000 central repair farm workshops, 25,000 technical servicing points, approximately 2,600 technical service stations for tractors and motor vehicles, 2,000 rayon general purpose repair workshops and shops for the repair of combines, 1,910 specialized workshops and 313 repair plants.

The repair base of USSR Gosagroprom, assuming a high level of organization for its use, makes it possible for the most part to achieve the timely preparation of equipment for field operations the following year.

In September and October, the engineering services of many farms and RAPO's adopted measures aimed at ensuring the timely preparation of the repair base for work during the winter period. The measures implemented for heating the facilities, supplying the working positions with the needed equipment, instruments and technical documentation, creating the required number of repair brigades and teams and preparing efficient repair plans and schedules for each group of machines are creating the prerequisites needed for the high quality preparation of equipment in keeping with the established schedules.

Unfortunately, such work has not been carried out at the proper level in all areas. Checks have established the fact that on farms in a number of oblasts and republics a formal approach is still being employed in matters concerned with the timely preparation of the repair base. In addition, the machine repair schedules are being postponed until the spring period. The consequences of such attitudes are well known: a considerable number of the machines on these farms, especially those used for procuring feed and harvesting crops, remain unrepainted or they are repaired in haste or in a low quality manner. It is by no means an accident that problems associated with the readiness of equipment are uncovered considerably more often in those areas where the farm leaders and engineering services of RAPO's are not devoting attention to creating the production conditions required for the carrying out of repair work during the winter and are not displaying proper responsibility in the matter of planning and organizing equipment preparations

and utilizing for this purpose the potential offered by rayon RTP's and specialized workshops and plants.

Under the new conditions, an important role will be played by the rayon RTP's. In the carrying out of equipment repair work, more complete use must be made of their potential based upon the new managerial methods and business-like economic relations between them and the farms.

In order to subordinate the work of the RTP's to kolkhoz and sovkhoz interests, a number of measures were carried out aimed at improving planning for the production activities of these enterprises and material stimulation.

The quality of the repair work carried out is of considerable importance with regard to the preparation of equipment for field operations. However, the results of checks reveal that under the new work conditions this problem remains unsolved, despite the fact that a real opportunity exists at the present time for raising technological discipline and improving the quality of repair work.

Today, more than 75 percent of all repair work on agricultural equipment is being carried out in the workshops of kolkhozes and sovkhozes. At the same time, the degree to which a majority of the farms is being supplied with technological equipment remains at a low level. Many workshops lack washing units and control-adjustment stands and the availability of instruments, devices, lifting tools and other items of needed equipment is low. The workshops of farms are not being supplied adequately with normative-technical documentation for the repair of machines. All of this is having a substantial effect on the quality of equipment repair work.

The chief reason for this situation lies in the fact that the engineering service of farms and the RAPO's is not displaying proper concern for this important sector of work.

All necessary measures should be undertaken, as rapidly as possible, in the interest of equipping the farm workshops with the repair-technological equipment and technical documentation needed for raising technological discipline considerably during the repair of machines at kolkhozes and sovkhozes. Towards this end, the certification of working positions at farm repair workshops should be carried out prior to the end of this current year. The results of the certification and the measures aimed at ensuring that the working positions meet the requirements for the 1st quarter of 1987 should be examined by the RAPO councils.

More effective measures for expanding the production of repair-technological and non-standard equipment must be undertaken in the oblasts, krays and republics and at Gosagroprom enterprises.

The rayon RTP's, together with the rayagrosnabs, must accept full responsibility for the status of affairs in the repair of equipment at kolkhozes and sovkhozes, they must provide them with constant assistance in improving the technology and organization for repair operations and they must ensure timely deliveries of sets of spare parts for the repair of grain, feed

harvesting and other complicated machines, in accordance with defect lists prepared in advance.

With importance being attached to the timely and high quality preparation of feed harvesting equipment for operations, the task has been assigned of organizing, at rayon RTP's during 1987, sectors for the repair of self-propelled feed harvesting combines and creating specialized sectors and shops for the repair of hydrostatic transmissions for the complete satisfaction of farm requests for their repair.

The RAPO's must organize the work of technical exchange points in a manner such that the farms are able to obtain finished units and assemblies on the same day that old ones are turned over to the repair fund.

The program for the preparation of equipment for field operations is largely dependent upon the organization of labor for repair work. Thus, permanent brigades consisting of experienced machine operators and repair workers must be organized at the kolkhozes, sovkhozes, general purpose workshops and rayon RTP's for the autumn and winter period. At the same time, the production and cultural-domestic conditions required for productive labor must be created for these brigades.

In the interest of improving technological discipline and also for raising the skills of the repair workers, training should be organized for them during the autumn and winter period.

The extensive introduction into operations in recent years of intensive technologies for the cultivation of agricultural crops is imposing high requirements with regard to the quality of mechanized operations and the observance of technological discipline out on the fields.

In this regard, when preparing equipment for field operations, special attention should be given to their technological tuning and adjustment. The situation should be such that agricultural equipment is authorized for use only after it has been cleared for work at testing stands. This requires work to be carried out in connection with creating testing stands on each farm, equipping specialized posts and for creating sets of instruments and units for controlling the quality of machine tuning and adjustment operations.

In 1986, when preparing machines for harvest operations on many farms, fine decisions were handed down with respect to permitting only properly tuned and adjusted equipment to be moved out onto the fields. In Kuybyshev, Kokchetav, Voroshilovgrad, Donetsk, Rostov, Mogilev and a number of other oblasts, krays and autonomous republics, each grain harvesting combine was authorized for work only following careful adjustment, tuning and control.

At the same time, there are many farms where proper importance is not being attached to the creation of stands for the technological tuning and adjustment of equipment. In Kazakhstan, the republics of Central Asia and the Trans-Caucasus, the nonchernozem oblasts of the RSFSR and Zaporozhye, Chernigov and Sumy oblasts in the Ukraine, the proportion of farms having testing and control stands does not exceed 50 percent. The leaders of engineering

services in these regions must change radically their attitude towards the quality of machine preparation and their tuning and adjustment.

Many machines having a considerable amount of service life remaining are being turned over for repair work. At times, in connection with a breakdown of one or two parts, an entire unit or assembly is completely replaced or a complete machine is turned over for capital repair work. A barrier against such waste must be established by the diagnostics service, the efficient work of which at kolkhozes, sovkhozes and repair-technical enterprises must be organized in a manner such that no machine, unit or assembly is assigned for repair in the absence of a diagnostics chart containing an appropriate conclusion by a specialist.

In the complex of measures for achieving a high degree of readiness in agricultural equipment, great importance is attached to organizing correct storage for the machines and ensuring their preservation. Recently, a greater amount of attention has been given to these problems. Machine yards, storehouses, sheds and hard surface platforms are under construction at kolkhozes and sovkhozes, a machine yard service is being created and the responsibility of specialists and machine operators for this sector of work is being raised.

The experience of leading farms convincingly proves that the presence on the farms of equipped machine yards and a specialized service for the storage of equipment ensures reliable protection and a high technical readiness for the MTP.

Thus, in 19891, at the Kolkhoz imeni Kirov in Krasnoarmeyskiy Rayon in Donetsk Oblast, an engineering-technical complex with a technical servicing point and a machine yard was built and a machine yard service organized. The creation of a specialized service and the required base for the technical servicing and storage of machines enabled the farm to lower expenditures for equipment repairs by 25 percent and to raise the shift output per standard output from 8.1 standard hectares in 1980 to 9.4 standard hectares in 1985. The production cost for 1 standard hectare during this period was lowered by 1.45 rubles.

Purposeful work in this regard is being carried out by engineering services in Donetsk, Leningrad and Kustanay oblasts, the Altay Kray, Estonia, Lithuania and also in other oblasts, krays and republics throughout the country.

At the same time, checks have revealed that crude violations of the rules for storing equipment are often taking place at the kolkhozes and sovkhozes, complicated and costly machines are being stored on exposed platforms and the creation of machine yards is being dragged out in an intolerable manner.

In particular, the construction of bases for the storage of equipment in the Armenian SSR, Azerbaijan SSR, Georgian SSR, Moldavia and a number of oblasts in the RSFSR is being carried out in an unsatisfactory manner. The degree to which the kolkhozes and sovkhozes in these republics are being supplied with machine yards does not exceed 25 percent of the requirements. A specialized service for machine yards on farms in Moldavia, Armenia, Tajikistan,

Belorussia and Turkmenia is being introduced into operations in an intolerably slow manner.

Today the engineering service is confronted with the task of creating conditions on all of the farms for organizing the repair, technical servicing and storage of equipment and undertaking decisive measures aimed at carrying out the established tasks for construction of objects of the repair base at kolkhozes and sovkhozes and repair-technical enterprises.

The realization of the entire complex of problems associated with the preparation of equipment for the 1987 field operations will make it possible to solve more successfully the tasks concerned with increasing the production of agricultural products.

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## POLICY, ORGANIZATION

### PROPOSALS FOR IMPROVING CAPITAL CONSTRUCTION PLAN

Moscow PLANOVYE KHOZYAYSTVO in Russian No 12, Dec 86 pp 78-86

[Article by V. Pchelkin, candidate of economic sciences; N. Khomyachenko, candidate of economic sciences; and T. Bogdanova: "The Plan and Increasing Concentration in Capital Construction"]

[Text] The materials of the 27th CPSU Congress observed that a radical restructuring of capital construction in order to increase its efficiency is the central component of investment policy in the context of the intensification of the country's economy. The task has been set of putting an end to the scattering of resources, of increasing their concentration,(1) of narrowing the construction front, and of achieving the normative balance of the plan for capital investments related to new construction projects beginning in 1986 and for projects being carried over beginning in 1987.

This instruction of the congress was specifically stated in the decree of the CPSU Central Committee and USSR Council of Ministers entitled "On Additional Steps To Improve Capital Construction so as To Accelerate Scientific-Technical Progress in the Country's Economy," which was adopted in March 1986. USSR ministries and departments, both as customers and contractors, and USSR Gosplan, in preparing the capital construction plan for the current 5-year period, have been determining the order of priority for construction of enterprises and projects in the light of the requirements of that decree on the basis of the limits of capital investments and construction and installation work which have been outlined and also the approved construction time allowances.

An analysis made of the concentration of capital investments for construction projects with an estimated cost exceeding 4 million rubles in a breakdown of 20 ministries under the 1986 plan showed that this problem has not been satisfactorily solved at all.

The point is that success was not achieved all at once in adopting the normative regime--the deficiencies accumulated over a long period of time, and a lengthy time is needed to correct them. Something else is disturbing--the lack of a trend toward higher concentration, the low level of its indicators as compared with the standards (about 60 percent). This situation is reminiscent of past experience, which means there is a danger of repeating the old mistakes.

Just as at the present time, over the last 25 years the decrees of policymaking bodies have repeatedly set the task of overcoming the scattering of resources, of achieving normative balance of the capital investment plan and of creating conditions for construction within the allowed standard construction time. However, in spite of the economic and administrative measures which have been taken, the problem has not been solved. Moreover, it has become more acute. This cannot be looked upon as an accident, as the result of certain oversights or mistakes. The conclusion that suggests itself is that the permanent imbalance of the construction program is an inevitable consequence of the conditions that have come about for the conduct of economic activity, and the measures adopted have not touched upon the deep causes of the scattering of resources, since the problem they were aimed at overcoming has not disappeared.

It would be wrong to give bad marks to past experience in combating the scattering of capital investments, since, as V.I. Lenin noted, "...we cannot learn to solve our problems with new methods today unless yesterday's experience opens our eyes to the incorrectness of the old methods."(2)

A close analysis of past experience so as to think it through in different terms allows us to look in a new way on the old, but unsolved problems of the constant renewability of the scattering of capital investments and of the extremely prolonged prosperity of the "cost mechanism" in the sphere of contract work. To do this we need to examine the prevalent views of the causes of these processes, to look behind the external forms to the essence of the economic phenomena and to try to understand the real reasons for the divergence of the real investment process from its pattern in theory which has taken shape in our imagination, and on that basis to propose ways of increasing the concentration of capital investments.

It is widely thought that the reason for the scattering of capital investments, for the instability of the plan, and for other shortcomings in the investment sphere is the "cost mechanism" in contracting, whose effect is well known. Builders always try to achieve the largest gross volume of construction and installation work in order to augment profit and the wage fund which depends directly upon it. There would be nothing prejudicial in that if this gross indicator stood for projects completed on schedule, profitable operation, the standard amount of partial construction to be carried over in order to guarantee continuity in the future. An entire code of rules and normative acts in construction offer an orientation toward that kind of operation, requiring construction on schedule or ahead of schedule and cost reduction combined with a high quality of work. The list of indicators used in construction economics does not contain even the slightest flaw in theory. Yet in real life their fulfillment often occurs through an artificial boosting of the estimated cost through the use of more expensive products and fabrications, by diversion of resources in the course of operations from "inexpensive" projects near completion to "expensive" ones which represent spadework for the future, and this results in protracted construction times and the scattering of resources.

**Under these conditions solving the problem has been bound up with drafting the appropriate indicators, which by virtue of exclusion of costs of materials would make it possible to neutralize the negative orientation of the material interest of organizations operating as contractors.** In the sixties a test was made in construction practice of the indicator of the normative cost of work items (NSR), which as conceived was supposed to "correct" the shortcomings of the gross indicator. Later various modifications of the net output indicator were tested for the same purpose. The experiments cannot be called successful.

The indicator of the marketable construction product has been tried out since 1981. This is an attempt to eliminate the gap between the growth rate of the volume of construction and installation work and activation of projects and to take into account in the gross indicator the volume and structure of work items guaranteeing the delivery of projects for use on schedule. In spite of the great effort to improve the system of indicators directed toward creating economically favorable conditions for the functioning of the cost-accounting (khozraschet) mechanism in construction, the problem was not successfully solved.

The "cost mechanism" is a negative form of manifestation of the material interest of a production collective. It is well known that cost-accounting relations are dual in nature. The negative side of cost accounting is manifested in the increased motivation of the construction contractor to perform work items that bring the greatest income from the standpoint of the cost-accounting reference indicators used for the collective's incentives, even to the detriment of the interests of the state. But cost accounting only potentially includes the possibility of unity or, on the other hand, divergence of interests. Which possibility will be realized and in what form the material interest of the collective will be satisfied is determined by the level of centralized planning and also by the quality of management at the top management level. The effectiveness of cost accounting relations and normal realization of the material interest of the collective are determined by the stability and internal consistency of plans, by firm estimates, by economic contracts, and by progressive standards pertaining to physical inputs, labor inputs, and other types of costs. The plan and cost accounting are interrelated and interdependent categories that comprise a unified whole, but priority goes to the plan. The nature of the dialectical unity of the plan and cost accounting, taken as a single whole, arises out of their interaction, not from their separate influence. It is not possible to improve one part without concern for the other. That is why the explorations over many years to find "good" indicators in order to overcome the "cost mechanism" suffered from a serious methodological defect because of the one-sided approach and did not yield the anticipated results.

The established incentives and indicators for reduction of construction time and for increasing the efficiency of the construction process "have not been working," because the unbalanced nature of the plan meant that the physical prerequisites and factors of production were lacking that would have made it possible to complete projects on time and to do so profitably. Only under those conditions do construction and installation collectives have a material

motivation that points in the negative direction of costs. Given the scattered plan, it is not possible to achieve proper organization of operations and the correct technology at all projects included in the plan and to guarantee the normal financial condition of the construction contractor. To offset the shortcomings in the organization of operations predetermined by the unbalanced plan and leading toward operating losses, the contractor is left with a strategy imposed on him--to seek out "profitable" expensive work items and projects and to artificially increase the estimated cost of projects under construction. These are the sources of the "cost mechanism" in contract work. Attempts to limit the search for "profitable" work items using the indicator of the marketable construction product (TSP) and other indicators have not been successful. In our view we should begin at the other end--by drafting a normative-balanced plan. At present the contractor is forced to respond to the unrealistic plans by scattering construction work and by making it more expensive.

Unfortunately, the aphorism that prevails among builders is true: "If a trust can do 10 projects, and 12 have been planned, then it will do only 8." Strenuous plans are necessary, but when they are excessively strenuous and unrealistic for fulfillment, this causes a chain of adverse consequences altogether foreseen by the drafters of the plan not only in the economics of construction contractors, where the "cost mechanism" is activated, but also consequences which cause serious harm to the economy as a whole. However paradoxical it might sound, the hidden spring of the unrestrained rise of capital intensiveness of production over the last 25 years in all the branches of physical production without exception is the unbalanced plan, the inability to satisfactorily solve the planning problem, and the drive belt of this negative growth has been the "cost mechanism" itself, or the negative form of realization of the material interests of collectives which the unbalanced plan has evoked. The brigade contract--the most progressive form of the organization of work in the construction process--now covers about 30 percent of the workers, and for a long time now it has not been spreading further because of serious bad linkages in planning, above all because of the scattering of capital investments in the plan. An unacceptable style of operation with low efficiency is established under such conditions: the crash effort approach, frequent failures to meet schedules that have just been outlined. Observations over many years of one of the largest construction projects--the Krasnoyarsk Heavy Excavator Plant--show that even when deputy ministers responsible for the construction site take over direct supervision of the constructive process instead of work superintendents, the situation does not change. Consequently, the causes of the unsatisfactory functioning of the economic mechanism in the sphere of contract work do not lie above all in the performance of the trusts and other construction and installation organizations, but in the quality of the plan.

The transition (beginning in 1987) to contract prices reached by agreement between customers and contractors for the construction of enterprises and complexes and projects that can be started up independently, which has been outlined in accordance with the August (1986) decree of the CPSU Central Committee and USSR Council of Ministers entitled "On Measures To Improve the Economic Mechanism in Construction," will make it possible to strengthen

cost-accounting relations and to enhance the economic motivation of participants in the capital investment process.

In that arrangement 75 percent of the saving computed as the difference between the negotiated price and the estimated price (worked up from the blueprints) achieved by improving the volume-layout and technological features, by introducing efficient materials, fabrications, and products, by improving the organization of the construction process, by applying progressive machines and machinery, is to be distributed by the general contractor among construction, installation, and project planning organizations and customer organizations so as to take into account the specific contribution which each of them has made to reducing the cost of construction.

It is rightly said that departmental interests are the main reason for the scattering of capital investments in the plan, but, as experience has shown, knowledge of this cause has not by any means influenced the state of affairs in capital construction. If we take a deeper approach to the question of departmental interests as the cause of the scattering of capital investments in the plan, then we have to determine the specific form of manifestation of those interests, evaluate them in qualitative terms, demonstrate the consequences for the national economy, and so on. That is the only approach that is fruitful and worthwhile. Past experience has demonstrated the complexity of this problem: It is very difficult to find the line of demarcation between departmental interest and the interests of the state, since to a certain point they coincide.

Departmentalism and the losses it causes begin when the plan incorporates all the necessary construction projects, even when they have not been sufficiently backed up with capital investments. The state approach will consist of choosing from among the necessary projects that have been outlined those which are most indispensable and which can be built within the allowed period of time. We have dwelled on this question in such detail because it is widely thought that it is possible to painlessly mothball construction projects which supposedly do not have a clear technical-and-economic substantiation, which have become outdated, and so on, although this is sometimes the case. But the complexity and real contribution lie precisely in the fact that the choice has to be made from among projects scheduled for construction which are indispensable to the economy and which have been included in the plan after decrees to that effect by policy-making policies. This is the task that has by no means been satisfactorily performed in planning practice.

At the same time, as experience shows, we should not exaggerate the contradiction between departmental interests and those of the state and give it a fatalistic coloring. In solving some problem we often resort to that kind of last-ditch explanation when we do not know and cannot clearly foresee what consequences will result from a particular solution. Departmental interests are manifested, for example, in the way they take the inclusion of new construction projects in the plan or the mothballing of a portion of projects under construction, and so on. /That is why the problem of overcoming departmental interests comes down ultimately to creating a set of methods with which it will be possible to follow up the decisions taken over the 5-year period on

the basis of objective criteria reflecting the interests of the national economy./ [In boldface] The conclusion that can be drawn from past experience is that the basic problem of capital construction today does not consist mainly of seeking new indicators or the so-called "anticost mechanism," but in the need to solve the planning problem satisfactorily: to balance the plan of capital investments in normative terms and to maintain that balance over the course of its fulfillment, i.e., to create through the plan the real prerequisites for construction within the allowed period of time, i.e., the conditions for effective realization of cost-accounting principles and the material motivation of collectives in the sphere of construction work along with appropriate monitoring by state authorities.

The normative balance of the 5-year plan of capital investments is a basic condition for the successful functioning of the economic mechanism in the capital investment sphere. It would seem advisable to examine the present procedure for drafting the plan and discover how the methods and rules of decision-making now in effect could become and are in fact becoming a source of the permanent imbalance of the plan.

Capital investments are a means of achieving the goals of economic development. The point of departure in drafting the plan for capital construction then, is the target assigned for the growth of output or for activation of production capacities. The selection of objectives in the form of construction of new enterprises and reconstruction and retooling of existing ones is the specific form which this assignment takes.

The existence of the objectively limited nature of resources predetermines the choice and sequence of achievement of the goals and imposes skillful linkage of the goals which have been outlined to the resources for accomplishing them. Experience shows that this is a complicated task. Often, in the absence of procedures to accurately determine real capabilities, sights are set too high, and this results in disproportions in the process of reproduction of fixed capital and thereby a drop in the efficiency of utilization of capital investments.

The length of the cycle of the product's creation in the form of fixed capital and production capacities is a particular feature of capital construction as a branch of physical production. Construction technology requires long-term efforts to create the many structural elements of future enterprises and the installation of equipment. Standard allowances as to the construction time of enterprises were long ago devised for effective planning of work on capital investment projects; they are differentiated by the branches of physical production, and in addition to establishing the general standard allowed construction time for an enterprise or project, they also provide standard values for assimilation of the estimated cost in percentages by years and quarters. The particular feature we have noted in capital construction, given its immense scale, creates great difficulties with respect to the balanced linkage of construction projects to resources from year to year of the 5-year planning period, in spite of the existence of standard allowed construction times.

The procedure for drafting the 5-year plan of capital investments and construction work is a time-consuming process that goes through many stages, but for our purposes it can be represented in consolidated form consisting of three stages. The first is that of determining the total volume of capital investments and construction and installation work for the national economy as a whole; this is where the problem is solved of linking financial and physical resources. The second is establishing the limits of capital investments and construction and installation work by ministries and departments on the basis of the tasks of the 5-year planning period related to changing the structure of the economy and the established priorities in development of particular sectors and branches. The third stage is drawing up the title lists of construction projects in a breakdown by ministries and departments within the limits of the limits which have been fixed. It includes a new factor--the requirement for internal consistency over time. The derived limit of capital investments thus has to be distributed over construction projects so that each is guaranteed resources in accordance with the standard requirement and the capability for carrying on construction within the standard time allowed from year to year of the 5-year planning period. At present it is this stage which is the site of "pain" in drafting the plan. This is where the scattering of resources takes place. Moreover, the decisionmaking process when the title list is being written is not confined to distribution of the limit of capital investments and construction and installation work over construction projects; the volume of contract work allocated has to be linked to the capacities of regional construction and installation organizations. Internal consistency must embrace not simply fitting the planned volume of construction and installation work into the available capacity, which is now the case, but of linking them to one another so as to take into account the priority of the planned construction program. The principal shortcoming in the procedure of drawing up the plan of capital investments in the stage of drafting the title lists is that the drafter solve the local problems, usually within the limits of the annual period, without seeing the general picture (the quality of the plan, the lack of balance between the limit allocated, the number of construction projects, and the capacities of construction and installation organizations over the entire 5-year period). The adverse consequences of these decisions "of the present moment" are not manifested immediately, but over the pattern of 2 or 3 years, when the mistakes become obvious to everyone.

This decision-making procedure explains to a considerable extent the lack of an effective form of 5-year planning of capital investments, which characterizes the planning and preparation of the construction process proper in the ministries, administrations and trusts which do construction contracting. It is no accident that builders have raised the question of a 2-year planning period so that they would be able to look at a realistic future over a period of at least 2 years. This could be made possible in the context of the 5-year period; all that would be needed is to substantially improve the quality of the drafting of the plan by applying improved methods. But it should be remembered that nothing can be cast away in a single wave of the hand; this would have to be astutely incorporated into the present procedure for drafting the plan and constructive methods of improving it would have to be based within that framework.

A second serious shortcoming in plan drafting procedure is that decisions on new construction projects are made without taking into account their impact on the concentration of capital investments of construction begun earlier in a sectoral or regional breakdown. The decision is as though detached in time: first the new construction projects are included in the plan, and then, often several months later, the limit is fixed. The drafters of the plan at the middle level therefore face an almost irresolvable contradiction: they have to carry out the decisions that have been made, but the allocated limit of capital investments is not sufficient to cover all the construction projects included in the plan up to the standard requirement. That is where the "scattered" plan comes in. It is to the excessively large number of necessary, effective, but locally made decisions that we owe the impressive growth of the above-allowance volume of unfinished construction, which ultimately causes major losses for the national economy.

The present method affords the possibility of determining the efficiency of each individual construction project, but we lack a reliable set of methods for a comprehensive evaluation of the entire totality of decisions made in the title list from the standpoint of the adequacy of resources to cover the standard requirement. Given that situation, personal responsibility is so fragmented that most of the people involved end up relieved of personal accountability for anything more than meeting the internal requirements of the apparatus itself with respect to mutual reconciliation of deadlines for preparation of the accompanying document, and so on. Getting ahead of ourselves a bit, we must note that one of the evaluation parameters and the method proposed for drawing up the normative-balanced plan would be the indicator of losses from "freezing" capital investments in the above-allowance volume of unfinished construction. It would show what losses to the national economy are being caused by the scattered and normatively unbalanced plan up to the point of its being carried out. It would seem that an indicator like this would force the drafters of the plan to think more deeply about its quality because the losses will be defined as the result of their own planning activity.

The complicated nature of evaluating decisions to be made increases with the scale of construction. Because of the deficiencies we have noted the title lists of construction projects represent a set of practical decisions which lack a common orientation toward concentration of resources. The program for contract work is shaped on the basis of title lists, and activation of production capacity is outlined in them. That is why the quality of the title lists has paramount importance to increasing the efficiency of capital construction in all stages. The drafting of a normative-balanced title list is an economically and methodologically complicated and ramified problem. The approach to solving it must be on many levels, and the set of instruments must be appropriate to the complexity of the problem. The chain of cause and effect connecting the solutions and the effects has to be correctly discovered; there has to be a constructive idea and method of solving the problem; a model has to be developed and an information base created; the system described by the model has to be set in motion, the alternatives compared, and the most purposive version of the plan selected. As we see it, the measures which have been taken over the last 25 years in the sector of capital construction to

increase the efficiency of capital investments have not yielded constructive results, since the condition of the title lists was not changed. Failure to solve the problem over such a lengthy period of time has created the illusory impression that the process is altogether unmanageable.

The proposed solution to the problem of concentrating capital investments and construction and installation work "flows" naturally from the problem itself, starting with an understanding of the fundamental causes and basic procedural deficiencies in the constant renewal of the scattering of capital investments in the plan, which occurs in the stage of drawing up the title lists of construction projects.

The title list--the basic document of the plan of capital investments--is seen as a dynamic system that has two states: the present state in which capital investments are scattered, and the normative state, which is what has to be achieved in order to solve the problem of the optimum internal consistency of the plan. Effective management is not possible if one does not know how the system operates under normal conditions. Each state of the system can be described by means of parameters characterizing the entire totality of construction projects: in the first case the planned parameters or the parameters of the variant being sought, and in the second the normative parameters. The parameters of the plan and the normative parameters are identical in quality and differ only in numerical value. The following indicators have to be included among them: aggregate estimated cost; the coefficient of concentration; the growth of output from capacities activated; average construction time; specific capital investments relative to the growth of output; the volume of capital investment, construction and installation work, and physical resources; the activation of production and nonproduction capital; the average degree of completeness of projects; the volume of unfinished construction; losses from the "freezing" of capital investments; these indicators describe rather fully the object of study and can serve as an altogether reliable basis for making decisions.

The newness and essential distinction of the approach proposed from present practice is that the entire aggregate of construction projects is placed under normative control. In the present procedure for drafting the plan of capital investments the standard construction times are applied only to new construction starts; construction sites and projects carried over, which account for about 80 percent of the resources allocated, remain outside normative control.

The procedural method that guarantees that the normative parameters of the entire system are obtained is the plotting of the graph of normative distribution of the remainder of the estimated cost of construction projects carried over, and the fundamental factor is to determine the coefficient of concentration in terms of the relationship between the planned and normative volume of capital investments instead of through the planned and normative average construction times (as is usually adopted). This approach guarantees the measurability of the results of the entire totality of decisions.

The goal of building the proposed mathematical-economic model is to develop a formalized set of methods making it possible to describe decision-making procedures as a complex organizational process, rather than as separate acts of voluntary decisions taken from positions of departmental interest. The direct object of simulation would be the performance of planning authorities in shaping 5-year and annual plans of capital construction related to the process of linking the limit of capital investments and construction and installation work to the number of construction sites and the capacities of regional construction contractors on the basis of targets for the growth of output. In the process of making computations related to the model the problems of evaluating the quality of the draft plan submitted would be solved, and its most acceptable version would be arrived at (or several alternative versions). Progress in fulfillment of the plan would be actively monitored, appropriate adjustments would be made in order to bring the parameters of the plan closer to the normative parameters. As experience has shown, such a model can serve as a worthwhile "arbiter," since its operation affords the ultimate evaluation of all the changes and adjustments of the plan, which sometimes go in different directions. Calculations made by means of the model afford the possibility of showing exactly which decisions have brought about changes in the parameters of the proposed version of the plan and also to evaluate them in quantitative terms, i.e., to link into a unified whole decisions taken at the level of the construction site to decisions at the sector level. Experience indicates that often decisions to alter intersector proportions cannot be carried out when it comes down to distribution of capital investments within a sector or branch. At present it is not possible to link together the different levels of planning within the time fixed for drafting the plan because this process requires a great deal of work and the data processing methods are routine. The system for forming the normative-balanced plan of capital investments makes it possible to meet this condition by calculating a large number of alternative versions within the periods of time allocated for drafting the plan and in addition to guarantee comprehensive comparison and thorough analysis of the specific methods of normalizing capital construction.

At the present time the practical realization of an automated system for shaping the normative-balanced plan of capital investments and construction and installation work is taking place along three lines. First, an interactive system for the formation and analysis of title lists of construction projects (DISFATS) has been created at the level of USSR Gosplan in a sectoral breakdown. It has been successfully tried in a number of ministries. This project has been approved by the leadership of USSR Gosplan. Second, introduction of the system at the level of a union republic (GSSR) has been going on for a long time. Third, toward the goal of working out the most effective methods of linking the construction program to the capabilities of regional construction contractors a large region such as Krasnoyarsk Kray and the corresponding construction contractor--Glavkrasnovarskstroy of USSR Mintyazhstroy--were chosen. Participation of practitioners, of very important economic leaders, in the project has made it possible to adopt a sounder approach to solving such problems as the mobility of construction and installation organizations, the focal nature of construction, and increasing the efficiency of utilization of departmental facilities of the construction fabrication industry within the framework of the kray's overall construction program.

Experience in the effort to apply the system in planning practice has shown that after the set of methods is created, success depends mainly on the problem being grasped by the broad group of specialists whose job it is to implement the innovation. A second and equally important prerequisite for successful introduction of methods of drafting the normative-balanced plan is the ability to implement them in the specific forms of the existing conditions for planning capital investments at various levels. Experience in carrying out the system has confirmed that once the method of the normative approach is mastered, it is possible in the complicated and contradictory situation of capital construction to identify what pertains to the objective conditions and what characterizes the subjective form of their realization. Only the constructive approach makes it possible to study the real economic mechanism in capital construction. The extensive and skillful use of normative methods in planning capital investment is an inescapable demand of the times.

It is also clear that the force of inertia and the conservative thinking of personnel do much to favor the scattering of capital investments. Often people who are sufficiently qualified for one reason or another do not try to concentrate attention on the first cause of the constant scattering of resources and to look at the facts in their true and unembellished form.

The urgent problem of raising the scientific level of planning is to link practice as close as possible to the most recent economic research. This requires that planning authorities master the results of scientific developments promptly and act as initiators of new research that will make it possible to increase the effectiveness of the planned management of capital construction.

#### FOOTNOTES

1. The indicator of the concentration of capital investments or of construction and installation work for a project, subsector, or sector is the ratio of the planned volume of capital investments or construction and installation work to the normative volume. The normative-balanced plan presupposes 100-percent concentration of resources.
2. V.I. Lenin, "Poln. sobr. soch." [Complete Works], Vol 33, p 70.

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## POLICY, ORGANIZATION

### METHOD PROPOSED TO IMPROVE ORGANIZATION OF CONSTRUCTION

Moscow PLANOVYE KHOZYAYSTVO in Russian No 1, Jan 87 pp 49-55

[Article by G. Subbotin, candidate of economic sciences; first paragraph is PLANOVYE KHOZYAYSTVO introduction; passages within slantlines are published in italics:"A Big Turning Point in the Organization of Construction"]

[Text] The packaged-module method (komplektno-blochnyy metod) of construction is something new in the practical organization of operation in the sector. Its advantages have been confirmed by experience in developing petroleum and gas deposits in the northern areas of West Siberia and in laying a number of the largest oil and gas pipelines. The benefit from applying the packaged-module method of construction in the 12th Five-Year Plan could exceed 5.5 billion rubles. So that this method can spread rapidly and widely plans must call for the output of equipment in packaged-module form and for the creation of specialized new vehicles to deliver equipment to the sites where projects are being built.

The Basic Directions for the Economic and Social Development of the USSR Over the Period 1986-1990 and up to the Year 2000 have called for consistent pursuit of further industrialization of the construction process, for transforming it into a unified process of erecting structures from components manufactured off-site, and complete delivery of utility equipment and processing equipment to construction sites in consolidated units.

Packaged-module installations (BKU--blochno-komplektnyye ustroystva) have been used during three 5-year planning periods now in the construction of a number of enterprises in the petroleum and gas industries. This process is based on the packaged-module method (KBM), and its use in building projects has come to be called packaged-module construction (KBS--komplektno-blochnoye stroitelstvo). This way of organizing construction guarantees a saving on resources, speeds up project activation, and intensifies construction.

Over the period 1954-1966 industrialization of construction was mainly characterized by the use of prefabricated reinforced concrete in combination with mechanization of the construction process and using mechanization to increase the level of prefabrication of structural components and the amount of off-site fabrication. /At the present time one might say that this factor has already "played itself out," it is not having any noticeable impact on the rise

of labor productivity in achieving a high level of prefabrication in industrial construction./ A further rise in the volume of industrial construction using prefabricated reinforced concrete will not further intensification of the investment process to the fullest, since the erection of production plants to be built with concrete and brick is distinguished by quite high materials, energy, and labor intensiveness and high shipping costs. At the same time construction times are prolonged, and the active part of the fixed productive capital activated quite often is becoming obsolete even in the construction stage.

/KBM should become the basis for further industrialization of industrial construction and for improving it. This is in essence a new stage in the industrialization of construction and is distinguished from those which preceded it, in which prefabricated structural fabrications were manufactured off-site, in that now a substantial portion of installation and specialized operations are also performed off-site and the necessary equipment, parts, and assemblies are packaged./ This method affords the possibility of using compact equipment with a high degree of automation, reducing materials intensiveness and expenditures of labor at the construction site and during actual operation, raising the level of transportability and installability, and of simultaneously reducing the costs of transport, installation, and startup. These conditions in turn impose requirements on machinebuilding with respect to reducing the outside dimensions and weight of the equipment to be installed. Which means that changes have to be made in designing buildings and installations, and a higher standard of quality must be met by building materials, fabrications, and components.

Experience in using the KBM in the construction of petroleum and gas projects affords the possibility of examining certain economic-planning problems related to the further increase and its effectiveness.

This experience has been acquired most consistently in the industrial-construction association "Sibkomplektmontazh" of Minneftegazstroy, in which the manufacturing, transport, and installation of BKU has been properly organized. For instance, the use of the new packaged equipment at installations for the integrated preparation of gas at the Naipskiy, Shatlyk, and Gugurtlinskiy gas deposits afforded the possibility of increasing their unit capacity 1.7-fold (bringing it up to 5 million  $m^3$  of gas per day), to reduce capital investments by a factor between 1.8 and 2.3, to cut in half the area of the production site, and also to substantially reduce operating costs. In the 10th Five-Year Plan packaged-module gas pumping units were installed at the compressor stations of main pipelines (aircraft engines were incorporated in them), which made it possible to forego construction of compressor shop buildings, to reduce construction time and expenditures of physical resources, and to reduce labor inputs by a factor of 5.9.

The institute Giprotruboprovod of Minnefteprom developed the design of a petroleum pumping station of the packaged-module type for main line petroleum transport that reduces the construction cost by a factor of 1.6, the amount of earthmoving by a factor of 5.5, the length of wire and cable by a factor of 3, and the area occupied by the station also by a factor of 3. The total economic benefit is 1.9 million rubles.

Minneftegazstroy in West Siberia has been mastering the technology for building structures from large-volume modules (or supermodules) weighing up to 1,000 tons. The unit weight of the modules, which have been manufactured in Tyumen, transported by water, installed, and are now in operation, goes as high as 400 tons. In 1985 the association "Sibkomplektomontazh" manufactured 23 pontoon modules for an integrated gas treatment installation (UKPG) at the Yamburgskoye gas condensate deposit whose total weight was about 5,000 tons. In Tyumen assemblies and fabrications are manufactured under plant conditions and subsequently assembled at a facility located on the bank of the Tura River and rafted from there to the installation site.

The institutes VNIlgazpererabotka and VNIISTom worked out the technical-and-economic substantiation for construction of the Krasnoleninsk Gas Refinery using unit-modules weighing many tons and installed on floating platforms. The refinery will have 29 unit-modules with a total weight of approximately 12,000 tons, including 18 modules incorporating the processing furnace, the machine rooms for the raw compressor gas, the cooling department, the precompression room and air compressor room, the water pump room, etc. The weight of the individual modules will go as high as 1,200 tons, and they will be 80 x 18 x 16 meters in size. The modules are to be installed on the platforms using the "lock-dock (shlyuz-dok)" method taking advantage of the lifting force of water pumped into the construction site, surrounded by an embankment. The activation time for this plant in the large-block design as compared to the traditional methods (using the standard) is supposed to decrease from 41 to 27 months, or 34 percent, and the total labor intensiveness of the plant's construction is to be reduced by 37 percent. The calculated economic effectiveness will be 10.8 million rubles, or 16.8 percent of the capital investments to build it.

In our view the packaged-module method can be used successfully in building production plants and projects not only in the petroleum extraction and petroleum refining industries, but also in the chemical, petrochemical, microbiological, electrical equipment, meat and dairy industries, as well as in building projects in agriculture and other sectors where it is technically and economically advisable to manufacture and assemble parts of the structures (or the structures as a whole) at industrial enterprises (in shops or at facilities).

/But this construction method is being introduced slowly because the processing equipment for building the enterprises is being manufactured by traditional methods. It was noted above that the success in large-module construction also depends on the machinebuilders. The large-size and heavy equipment creates great difficulties in transport and especially installation. Some of the equipment (compressor and petroleum pumping units and the like) cannot fit in block-boxes (blok-boksy) at all. Individual enclosures have to be built, and that makes the work take longer. There is a need for standardization of installations which can be erected by the large-module method under the supervision of USSR Cosstroy. This standardization would serve as the prerequisite for planning the manufacturing of equipment intended for installation in modules./ The manufacturing of equipment for transport and installation of large-size modules has not been organized.

**Large-module construction can serve as an accelerator of scientific-technical progress in the branches of industry, since the necessary shapes and sizes of steel and aluminum tool products, corrugated steel sheet with special anti-corrosion coating, polymer materials, lightweight high-strength concrete, and efficient noninflammable thermal insulating materials, and so on, are required to reduce the materials-intensiveness and increase the quality and efficiency of project construction and the reliable transportability of the large-size modules. This in turn calls for technical and technological restructuring of production in the branches which would manufacture this product.**

/One of the virtues of large-module construction is the labor-saving (and consequently reduction of the number of persons employed on construction projects, which is particularly important for regions being developed for the first time) and the sharp increase in labor productivity./ It has been mentioned in the press that over the period 1971-1980 an additional 60,000 or 70,000 workers would have been needed in Tyumen Oblast if traditional construction methods had been used, whereas in actuality 28,000 persons were hired.

At the same time there was a substantial saving on capital investments in social welfare and consumer service facilities. The savings per worker, including the family, amounted to 25,000 rubles in the Ob Valley and 30,000 rubles in the north of the oblast.

/KBS contributes to more optimum location of the productive forces and reduces the need to build new cities and large settlements./ An additional benefit is achieved through the reduction of the weight of building fabrications--the volume of freight shipment for construction projects is reduced by a factor of 2.5-3.

Thanks to use of packaged-module construction the benefit to the national economy over the period 1973-1978 exceeded 500 million rubles, construction time of petroleum and gas projects was reduced 25-35 percent, labor expenditures at the construction site were reduced by a factor of 2-2.5, the aggregate weight of building materials was reduced by a factor of 3-4, and the area of overall layouts was reduced by a factor of 2.5-3.

The effectiveness of KBS is also manifested in the sphere of social welfare: the working and living conditions of the workers employed in construction are considerably improved. The off-site manufacturing of the structure makes it possible to sharply reduce losses of worktime because of idleness imposed by the weather and climate, and, especially important, it helps to reduce the rate of illness and accident rate of the workers. The share of manual, physical, and unattractive labor is reduced. More optimal use is made of raw materials and supplies, the adverse effect of construction work on the environment is diminished.

Experience shows that when enterprises are built with the traditional technology (even when it is organized at a high level) the consumption of materials (including losses) for the project has not been successfully brought down to the level of material inputs when it is built under plant conditions.

The saving on supplies and raw materials in the packaged-module method of construction is achieved by virtue of three factors: reduction of the volume of construction work and the area size of the construction site; use of progressive materials and effective thermal insulation, thereby reducing the weight of the project; switching a portion of construction and installation operation off-site. The manufacturing of projects off-site in the form of block-boxes minimizes, and the use of large-size modules practically eliminates losses of materials in shipment, loading and unloading, and installation operations at the construction site.

Off-site performance of most of the construction work of the above-ground portion of projects makes it possible to improve utilization of physical resources because they are economically cut and progressive technology is used.

On the basis of the experience of the association "Sibkomplektmontazh" Minneftegazstroy has created in Orenburg, Tatar ASSR, Bashkir ASSR, and Komi ASSR and other regions of the country mobile trusts whose components include enterprises to assemble modules. As a result the volume of contract work performed in 1985 using KBM exceeded 1 billion rubles.

We have been discussing the construction of petroleum and gas projects. The packaged-module method is being introduced slowly in other sectors of the economy. /The main reasons for this situation are these: the lack of the necessary equipment and materials; the absence of uniform criteria of efficiency and planning indicators extending over the entire process from start to finish, so that there is a discrepancy between the goals of the capital investment system and cost accounting (khozraschet) interests (of machinebuilding, construction, and so on); and so far the volume of KBS is not being planned./

To be sure, in the section "Development of Science and Technology" of the state plan construction ministries are assigned annual targets for use of KBM in millions of rubles of construction and installation work, but this indicator has not been extended to the production-economic activity of the principal participants in the capital investment process, and that is why the goal is not being achieved.

The project planning organizations of certain ministries which figure as customers have not been doing enough to promote the use of progressive solutions, projects are being designed in this sequence: the construction part is developed by Minneftegazstroy, while the processing part and project as a whole, including the cost estimate are done by organizations of Minnefteprom and Minguazprom. As a consequence the standardized designs of compressor stations using BKU, which reduced the cost per unit capacity by 15 percent and labor inputs by 30, and which had been prepared during the 11th Five-Year Plan by the SPKB "Proyektneftegazspetsmontazh" of Minneftegazstroy, were not introduced for 3 years. Developments of the institute "SibNIPigazstroy" which aimed at increasing the level of modular construction at the Urengoy gas condensate deposit, at reducing labor inputs by 26 percent at construction sites, and reducing the estimated cost by 10 percent, were introduced only 4 years later. Examples can be given where the designs for certain projects were developed on

the basis of the concrete-brick method of construction when Minneftegazstroy had already mastered the technology of packaged-module construction. All of this lengthened project construction time, reduced the efficiency of capital investments, and, according to the data of Minneftegazstroy, resulted in the recruitment of additional manpower for the northern areas of Tyumen Oblast.

The present state of packaged-module construction is characterized by the transition to construction of enterprises using fundamentally new and highly efficient equipment contained in modules. This will impose important tasks on machinebuilding ministries, above all Minkhimmash, Minenergomash, Mintyazh-mash, Minelektrotekhprom, Minaviaprom and Minpribor, which will be building equipment so as to take into account the particular features of the application of KBM. And it is precisely this factor that determines the greatest benefit of KBM. But great efforts are required on the part of the machine-building industry. The effectiveness of KBS is substantially reduced because of shortcomings in preparation of industrial production and unsatisfactory supply of physical resources in the required assortment for manufacturing the block-boxes and equipment.

/The present system for drafting plans for petroleum and gas construction and also the present arrangement of relations between customers and construction organizations operating as contractors are adversely affecting the effectiveness of using KBM. As a rule the customers are not prompt in defining the configuration of complexes which can be started up independently, so that the production program of the contractors for packaged-module construction is quite late being drawn up. In these cases the customers usually use approximate drawings of packaged-module installations, and then they make corrections in them all the way to the replacement of the equipment called for in the design. There is good reason to speed up the transition to authentic 2-year planning of the activation of petroleum and gas projects./

Material and technical resources for contract work are being planned for branches using KBM in the traditional way (per million rubles of the estimated cost of construction and installation work), without taking into account the specific nature of this method. As a consequence the plan remains unbalanced with respect to deliveries of the necessary resources. The builders are allocated equipment according to the same rules that applied before application of KBM.

The planning and allocation of stocks of material and technical resources should be revamped in view of the change in the makeup of the materials required on the basis of the standard allowances arising out of the peculiarities of applying KBS. There must also be an appreciation of the additional need for manufacturing equipment to retool the module assembly enterprises manufacturing the packaged installations.

There is good reason to improve the system of planned use of the packaged-module method so that its particular features can be taken into account to the maximum when plans are drawn up for contract work, when the need for capital investments and physical, technical, and labor resources is determined at all levels of planning and in all time frames. Normative acts regulating relations

between ministries and departments with respect to the planning and delivery of material and technical resources for manufacturing BKU need to be drafted and adopted.

So that this method is disseminated with the greatest speed, fundamentally new compact equipment needs to be created and manufactured, the production of efficient thermal insulating materials and the necessary shapes and sizes of rolled products of ferrous and nonferrous metals and other materials and products used in off-site manufacturing of packaged installations needs to be expanded. There is much to do for RSFSR Minavtotrans (the association "Spets-tyazhavtotrans"), for Minmorflot, and RSFSR Minrechflot to see that the large-size modules are transported in the volume required. In the very near future specialized new vehicles have to be designed to get large-size modules weighing 1,000 tons or more to the construction site. The construction and installation organizations carrying on KBS should have a fully adequate supply of automatic production lines for manufacturing the product and nonstandard equipment, jigs and fixtures, and specialized tools.

It is only on a planned basis that all of this can be done in good time. KBS must become an independent object of national economic planning. In our opinion, the following needs to be done to achieve that:

i. include summary indicators of packaged-module construction in the Comprehensive Program for the Scientific-Technical Progress of the USSR Over the 20-Year Period;

ii. draft the long-term all-union Comprehensive Program for Development of Packaged-Module Construction Over the 10-Year Period (with a breakdown by 5-year periods). It should include measures for retooling construction ministries carrying on packaged-module construction aimed at maximum utilization of this method, at increasing its efficiency thanks to the manufacture and use of progressive types of automated equipment, industrial fabrications, products, and materials. And then the following should be done on that basis:

1. draft the programs for the respective sectors and branches;

2. assign the most important indicators pertaining to KBS in 5-year and current plans (including the 2-year period) of construction contractors and organizations figuring as customers by ministries, main administrations, trusts, and production-industrial associations, and assign appropriate targets and the plans of the relevant ministries for manufacturing packaged-module equipment, stating the most important technical-and-economic parameters, transport and installation equipment for large-size modules, industrial materials and products, and so on;

3. design the technical and construction aspects of projects on the basis of progressive norms that reflect use of packaged installations and industrial constructions of packaged-module equipment. These standards must be drafted and approved so they are dovetailed with indicators of the level of the modularization of the enterprises to be built and they should be revised periodically.

Once the state plan for economic and social development has been adopted, the following assignments should be broken down: the volume of activation of fixed capital and production capacities in packaged-module form by ministries figuring as customers; activation of production capacities and the volume of construction and installation work to be done using BKU--for construction ministries; and plans for the output of packaged-module equipment--for machine-building ministries.

Two indicators of modularization should be distinguished in planning KBS: the volume of construction product in the form of packaged modules and the level (degree) of modularization of the construction product.

The volume (level) of the construction product in packaged-module form reflects the volume (or level) of the output of construction (the volume of activation of capacities, and so on, or the relative share) produced using BKU in the respective entity subject to planned management (the ministry, the main administration, the enterprise).

The level of use of BKU in fixed assets to be activated can be determined in their total amount as the ratio of the volume of activation of fixed assets created using BKU to the total volume of fixed assets for production purposes to be activated for the ministry or organization as a whole. When this indicator is being set for the activation of production capacities, it must be taken into account that the calculations have to be done for groups of projects with identical units for measuring capacity.

Since in the construction of enterprises the most recent technical attainments are realized through the design, the relevant standards need to be developed and approved for designing them using BKU. The proposed indicators of the level of modularization can be used for those purposes.(1)

Planned management of the level of modularization in the creation of fixed capital will make it possible through the system of start-to-finish planning and project planning, using the indicators and standards governing the use of BKU and module equipment, to manage the process of the planned rise in the level of industrialization of the construction process and the technological structure of capital investments, as well as reduction of all types of resources per unit extraction and shipment of the raw hydrocarbon.

The proposed planning mechanism can function effectively provided 5-year and current plans are drafted on the basis of a system of scientifically sound quotas and standards (SNI<sub>N</sub>) which take into account the specific nature of KBS. No such standards exist at the present time. That is why SNI<sub>N</sub> need to be specifically worked out for the KBS of projects as an integral part of the overall system of quotas and standards for capital construction, using the following principles. These quotas and standards should be worked out on the basis of a standardized list of modular products, installations, and a list of enterprises built by the packaged-module method, which would be adopted at the national economic level.

Developing the natural resources of West Siberia and the eastern regions of the country presupposes extensive application of KBM. Even during the 12th Five-Year Plan there should be a 1.6-fold increase in construction and installation work at projects of the petroleum-gas complex over the present volume.(2) Numerous petroleum deposits located at a great distance from production facilities and the social infrastructure need to be developed and fitted out. But development of Arctic deposits of natural gas on the Yamal Peninsula is practically unfeasible and inefficient with the old method. That is why plans call for increasing the volume of packaged-module construction at least twofold between 1985 and 1990. A number of measures are also to be taken to improve the organizational structure of management and the other units in the economic mechanism. If we start from the level of economic efficiency of previous years (over the period 1972-1982 the volume of contract work using the packaged-module method was 3.53 billion rubles, and the economic benefit in the spheres of construction and use exceeded 2.5 billion rubles),(3) the benefit from using this method in the 12th Five-Year Plan could exceed 5.5 billion rubles.

Improvement of the mechanism for planned management of the capital investment process using KBS will energetically aid performance of measures to radically improve matters in capital construction.

#### FOOTNOTES

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3. V.G. Andriyenko, Yu.P. Batalin, and G.I. Shmal, "Industrializatsiya stroytelstva obyektor neftyanoy i gazovoy promyshlennosti" [Industrialization of the Construction of Projects in the Petroleum and gas Industry], Moscow, Nedra, 1985, p 320.

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7045  
CSO: 1821/6

LABOR

EFFECT OF MANPOWER DEFICIT ON PRODUCTION NOTED

Moscow IZVESTIYA in Russian 22 Jan 87 p 2

[Article by V. Chichkanov, Corresponding Member of the USSR Academy of Sciences and director of the Institute of Economics of the Uralsk Scientific Center: "Who Will Work Tomorrow?: On the Deficit of Labor Resources and the Knowledge Deficit About It"]

[Text] Much has been said regarding the shortage in labor resources. It is known that this is a relative factor, since the resources being drawn into social production are not being used adequately. Today more than 50 million persons are performing manual labor, the losses in working time are great, the intensity of labor is quite often lower than normal, there is considerable worker turnover and the unjustified diversion of personnel from their principal activity to other work has not been overcome.

There is one point of view which holds that all of these difficulties derive from a sharp reduction in growth in the able-bodied population. Actually, the labor resource problem became aggravated during the first half of the 1970's, at which time the natural increase in these resources was at its highest point during the post-war period. The demographic situation has only aggravated the problem. The chief causes for this problem having developed -- economic factors and failure to attach proper value to the social factors of labor.

Up until recently, the ministries and departments tried to increase production mainly through the creation of new enterprises and the expansion of existing ones. In the one hand, this tended to divert an excessive proportion of capital investments for new construction and, on the other, it created new working positions and thus additional personnel were required. Technical improvements in existing production operations have been held up. In addition, the collectives and leaders of enterprises were not interested in carrying out planned tasks with a reduced number of workers.

It should also be remembered that the labor resource situation developed in an irregular manner by regions of the country. Thus the causes cited above were especially strong in a considerable portion of the inhabited territory of the RSFSR, the Ukraine, the Belorussian SSR and in the Baltic republics.

The picture is entirely different in the Moldavian SSR, in the republics of Central Asia and partially in the Trans-Caucasus. Commencing with the 11th Five-Year Plan, it was precisely in these regions that the main increase took place in labor resources, while at the same time the size of the more mobile population of able-bodied age in the RSFSR, the Ukraine, the Belorussian SSR and the Baltic republics declined somewhat.

What form does the reorganization of this important sphere take -- does it include the formation and efficient use of labor resources?

First of all, a need exists for thoroughly working out all sections of the state plans for economic and social development, in the interest of achieving a balance between production and the sphere of services with the available labor resources, for both the country as a whole and from a territorial standpoint.

A basic change must take place in the attitude by the ministries towards the problem concerned with ensuring that their subordinate enterprises are supplied with personnel. With regard to a territory, they appear more today as dependents rather than as zealous masters of their work. It is maintained that construction is our concern, whereas your responsibility consists of supplying personnel. Practically speaking, intra-branch redistribution of labor resources is still not being employed on an extensive scale. And yet this constitutes a considerable reserve for solving personnel problems.

A need exists for improving substantially the entire system of state regulation of labor resources. This will become especially urgent as workers are released in the future as a result of production mechanization and automation, at which point training and retraining will be needed.

The collective experience of fraternal socialist countries underscores the effective opportunities available for the redistribution of workers. In many countries (Bulgaria, Hungary and the GDR), job placement is being carried out only or mainly through labor organs. The use of modern methods for gathering, storing and analyzing information on the status of population employment and the national economic requirements for personnel (in particular, the use of computers) makes it possible to reduce considerably the amount of time required for finding new employment for the population. In Bulgaria, for example, this time amounts to an average of 4-5 days.

Positive experience is available in our country in this regard. For example, in Ulyanovsk, where rather complete information is available on labor resources, computers are used and the requirements of enterprises are taken into account. Unfortunately however, in the majority of instances the employment organs act in a formal and sluggish manner based upon incorrect information. Quite often their work amounts to nothing more than paper tight-rope walking and the formation of work trends which an individual is capable of unearthing himself. The following situation also develops quite frequently -- some ministries, in striving at any cost to attract additional man-power to their enterprises, for example, through Orgnabor [Department of Resettlement and Organized Recruitment of Workers], obviously embellish the working conditions and those benefits which each individual who works in a particular

kray has come to expect. An example of this is the numerous promises which the ministry has made to the Tyumen oil workers in connection with the creation of normal housing and domestic conditions, many of which still remain unfulfilled today.

In the system for improving the administration of labor resources, the so-called balance method must undergo further development. This method makes it possible to determine not only the personnel requirements of an enterprise but also the specific sources for obtaining them: PTU's [vocational and technical schools], technical schools and VUZ's. Today many enterprises apply themselves to this work in a formal manner. And indeed the work must be arranged in a manner such that large labor collectives (8,000-10,000 workers or more) are generally self-reproducing, that is, they can fully satisfy their own personnel requirements.

Of equal importance is the need for raising the level of labor organization and strengthening discipline in the broadest sense of this word. In industry alone, owing to organizational shortcomings, more than 60-70 man-days are being lost annually, while at the same time more than 500 million man-hours of overtime are being worked.

The forthcoming conversion of the national economy over to double and triple shift operations must produce definite results.

Finally, an important trend in reorganizing the system for administering labor resources is the primacy of social factors and working conditions. This is of special importance in newly developed regions. Unfortunately, the mentioned requirement is not always being followed. Let us take the city of Tynda --the unofficial capital of BAM [Baykal Amur Mainline]. Today, serious miscalculations in its development are already apparent. Over a period of 10 years, the city's population increased by a factor of 10. It is a problem to obtain comfortable housing and it is a problem to register a child in a nursery. There are no youth institutes in the city and there is an acute shortage of athletic installations. The city lacks a single masters: here there are 34 ministries and departments, each of which operates according to its own discretion. Overall, the number of persons coming to the city for work equals the number of those departing. Thousands of individuals pass one another in this manner. And indeed the attraction of just one worker to this region costs the state 3,500 rubles.

The social factors are not exhausted by the "living environment" only. Importance is also attached to the purposeful formation of socially important arrangements for work on a particular territory. Rather interesting in this regard are the work arrangements for persons who change their place of work. Studies devoted to this problem made it possible to single out three types of workers. The first -- socially mature: the activities of workers of this type conform fully to the production requirements. They possess a high level of professional skill and social activity and they attach a high value to their work. These are collectivists. This type of worker constitutes eight percent of those who change their work. The second type is characterized by a tendency to search for more favorable conditions for displaying their talents. The orientation for personnel of this type is mainly individualistic in

nature. Leisure activities rather than work predominate in the structure of their interests. This type constitutes one half of the overall number of workers. The third type -- socially immature individuals who possess an inflated impression of their self-worth. The chief motive for their work activities -- satisfaction of material requirements. The level of professional training possessed by these workers is inadequate, they adapt only slowly to production requirements and quite often they disregard the social norms for a labor collective. This type constitutes approximately 42 percent of the overall number of workers who change their positions.

Thus the more mature workers from a social standpoint, individuals who are not inclined to change their work assignment, make maximum use of the opportunities available for realizing their goals.

At the same time, it is possible to single out the two principal aspects of a man-power evaluation.

The first, the characteristics taken into account in a traditional political-economic approach define the cultural-technical level, professional knowledge, experience, skills and physical health of the workers. The activation of labor resources through improvements in these characteristics naturally requires a reorganization of the system of professional education, the creation of material conditions for the daily routine and recreation activities of workers and improvements in the rates and quality in the construction of housing and childrens' institutions.

However, the optimization of this aspect alone will not produce a noticeable increase in the productivity of live labor. There is another equally important and, under accelerated conditions, decisive quality aspect with regard to implementing the human factor in production. This consists of a system of moral-world outlook positions and the expectations of a worker and his spiritual and personal needs and abilities. Here is what was revealed by a study of this problem -- personality potential of a worker. People can be of the same age, the same profession, work in the same department and possess a similar educational level. But some are oriented towards a creative attitude towards their work, while others are not. As a result, the former surpass their comrades in terms of:

...efficiency promotion work by almost twofold;

...utilization of leading experience by a factor of 1.6;

...ability to find reserves for improving labor organization and to realize savings in the use of raw materials and other materials by a factor of 1.5.

Studies carried out by the institute's workers at enterprises in the Ural region have shown that positive changes in the attitude of workers towards their work have on the whole taken place over the past 15 years. For example, compared to 1970 when the ratio of positive and negative factors for evaluating the character and conditions of labor were 2:1, in 1984, 15 years later, this ratio was 3.5:1. During these years, more than one fourth of the workers converted over from "unsatisfied" to "satisfied" with their work. It

would seem that such a trend would serve to reassure us. But analysis has shown that there is as yet no basis for complacency. An improvement in the attitude towards work is associated with increased satisfaction with wages, with housing and daily living conditions and with the microclimate in a collective. At the same time, an evaluation by workers of the labor process itself and the role it plays in developing the personal qualities of a worker has declined considerably. Thus, compared to 1970 when on the average one out of every five workers associated the potential for his spiritual and intellectual development mainly with work and its nature, by the beginning of the 1980's the number of such workers had declined by one half.

The system for administering labor resources must also take into account the social heterogeneity of labor resources and the specific interests of the various population layers and groups. A differentiated approach must be employed.

On the whole, reorganization of the system for administering labor resources is an urgent task, the successful implementation of which is creating the prerequisites needed for implementing the strategy of acceleration, raising labor productivity and intensifying social production.

702b

CSO: 1828/b3

MOTOR VEHICLES, HIGHWAYS

OFFICIAL ON LAGGING AUTOMOTIVE ELECTRONICS PRODUCTION

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 30 Dec 86 p 1

[Interview with Vladimir Borisovich Kleymenovyy, chief of the SKB [Special Design Bureau] Elektronika at the Kaluga Motor Vehicle Equipment Works, by SOTSIALISTICHESKAYA INDUSTRIYA correspondent E. Mokhorov: "Without Reference to Instructions"; date of interview not given; first paragraph is SOTSIALISTICHESKAYA INDUSTRIYA introduction]

[Text] Kaluga--So far there is only one of these compact instruments. But in the near future, with the help of similar microcomputers, it will be possible to control the ignition systems of passenger and freight vehicles in an optimal mode. The microprocessor will allow gasoline savings of up to 10 percent of that burned in internal combustion engines.

When I took the silvery, notebook-sized instrument in my hands, I had a strange feeling: as though you had been the first informed about the opening up of a new Samotlor. No, the opening is only half of it. Roads have to be laid through impenetrable thickets, and pipelines and processing enterprises have to be built. And here in Kaluga, engineers in white coats are solving the problems of conserving motor fuel without particular expenditures. We are speaking with V. Kleymenovyy, chief of the SKB Elektronika at the Kaluga Motor Vehicle Equipment Works, about the assimilation of the "electronic Samotlor".

[Question] Vladimir Borisovich, doesn't it seem to you that we are lagging behind somewhat in the computerization of the motor vehicle? Even now aren't there delays in incorporating new goods into mass production?

[Answer] We have fallen behind, it is true. Ten years ago it was already clear that motor vehicle engineering should have electronic production on the highest level. We requested allocations then so that we could get things going, but they practically called us adventurers. The electronic industry undertook to supply microprocessor equipment. As a result, we are getting all of 3000 controllers for VAZ [Volga Motor Vehicle Works] and ZIL [Moscow Motor Vehicle Works imeni Likhachev], instead of tens of thousands. And now, ten years later, we are having to return to what we started with.

A joint Bulgarian-Soviet enterprise will produce the first generation of microelectronics for motor vehicles--this is also a powerful factor for acceleration.

[Question] And you, if I am not mistaken, have recently returned from Plovdiv. With what impressions?

[Answer] I particularly liked the exacting attitude toward quality. We conduct product testing once a year, but our Bulgarian colleagues carry on testing and improvement continuously.

But nevertheless, that is not the important thing. The problems that we for years could not solve with our longtime domestic partner Minelektronprom were solved by the Bulgarian side after the very first trip out there. We have lately learned to cope quickly with purely technical problems. For example, our plant used to require years to organize production of new goods; now that is done in a matter of months.

[Question] But then years go by while they are coordinated? Our paper has written about this more than once, and high tribunals have talked about it, but the clearing of bureaucratic obstacles does not go as quickly as it should.

[Answer] Here is the latest fact. Our plant spent two months preparing an experimental lot of component parts for Elprom. We did everything possible and impossible, and speeded up fulfillment of the joint plans. But in order to transfer the parts from one enterprise to another, we have to fill out such a quantity of instructions and directions that half the five-year plan will go by.

I remember how last year we set up a remote control system ordered by the Chelyabinsk Tractor Works, for use in dangerous quarries. Six or seven organizations worked on it for several years and failed to agree among themselves on a number of things. We just managed to equip two tractors with the electronic circuit. One of them is at USSR VDNKh [Exhibit of Economic Achievements]. When the tragedy happened in Chernobyl, they called us: "Your exhibit is not a toy? It can work in extreme conditions? Then fly to Chernobyl right away."

That is how we, representatives of various firms that participated in the development and manufacture of remote control, turned up at Chernobyl. Without reference to instructions, without written orders or directions, in the course of several hours we solved all the problems about which we previously could not agree with each other for years. And in a few days we manufactured 10 remote control units--of better quality, incidentally, than the first models. We observed the operation of the vehicle, and everyone should have thought that now the tractor has buried not only radiation, but also the bureaucracy that is fatal to any live work.

It was then that I understood--we can and must work differently. The instrument you hold in your hand is evidence of that. It will be put into mass production already this five-year plan.

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MOTOR VEHICLES, HIGHWAYS

KUTAISI MOTOR VEHICLE WORKS CHANGES PLANNED

Tbilisi ZARYA VOSTOKA in Russian 14 Dec 86 p 2

[Article by special correspondent Muradi Alashvili: "Quality of Work is Quality of Life"; first paragraph is ZARYA VOSTOKA introduction]

[Text] A new word has literally burst into use among Kutaisi vehicle engineers--state inspection. No matter which of the directors you meet these days in the KAZ [Kutaisi Motor Vehicle Works] production association, each one speaks with a certain amount of anxiety about the changes that await the collective beginning with the new year--about the state inspection as well as about complete self support and self financing. The anxiety is caused by the fact that the new KAZ-4540 is in the making, and at this stage the life of a thousands-strong collective is attended by particular difficulties.

"But in the struggle with difficulties, the collective is tempered and united," says Valeriy Mandzhgaladze, secretary of the plant's partkom, who took part in a recent CPSU Central Committee conference dedicated to preparing for the state inspection. "And the 27th Congress of the party has moved the problem of quality up into the ranks of the most important political tasks. And this task is being dealt with in an innovatively bold manner. We are headed for world achievements. And to facilitate this, we have called on the state inspection, which should set up a strong barrier to defective products and finally turn the labor collectives around in the direction of quality."

For practical purposes the KAZ association has been preparing for the state inspection since the beginning of September, when Givi Kobakhidze, an experienced specialist, assistant to the plant's chief designer and an Honored Engineer of the republic, was approved for the position of director of the state inspection organ. But a certain amount of experience in similar work already existed here, since even before there was extradepartmental inspection of vehicles and spare parts. This experience turned out to be very useful. It allowed the reasons for the low quality of assemblies and parts to be brought to light and the unsatisfactory sectors of production to be determined. Certain difficulties were eliminated. But there turned out to be so many.

In October and November the state inspection began to operate here little by little. First they undertook parts, then separate assemblies, units. . . And such omissions and trouble came to light as could put the association in a most difficult position if the anxiety were not stopped and decisive measures taken now.

"In general, these shortcomings and omissions lie in the fact that the quality of the parts and assemblies produced does not correspond to the technical requirements of the designs, technological processes, specifications, state standards or production records," says Givi Kobakhidze, director of the state inspection organ. "The certification of 4,877 work sites has not been completed here. Twenty-six stands are not yet ready, including ones intended for breaking in motor vehicles, for checking hydraulic systems and the leak-proofness of the brake system, and for testing engines. Girders for front drive axles are being manufactured and the welding and assembly of vehicle platforms done with large deviations from the standards of production records."

Things are no better at the main conveyor where the new KAZ-4540 is being assembled. The basic shortcomings are incompleteness and unsoundness of mounting operations. The systems are not tested here for leak-proofness, which is necessary to compute violations of technical conditions, and the starting of the engines at sector No. 4 that is stipulated by the technology is not being carried out.

The OTK [Technical Control Department] accepts a vehicle with deviations from specifications on a number of parameters. For example, the regulation of headlights and brake mechanisms is not checked and oil and gas leaks are allowed.

If this kind of defective product has been gotten away with up until now, times are changing. State inspection will put up a barrier to poor quality production.

But production is being reorganized in a new way too slowly. The results of a trial state inspection, conducted in October and November, are evidence of this. For example, testing of assemblies, begun October 20, gave unsatisfactory results. The engines, transmissions, transfer gear boxes, front and rear axles, cabs, frames and beds that were presented were not accepted because of the fact that the testing stands were not certified and do not make it possible to determine the characteristics of the assemblies or their correspondence to the demands of standards and the normal production records.

In October 408,000 rubles worth of goods were presented, and only 101,000 rubles worth were accepted. The correlation between presented and accepted production improved slightly in November, but its proportion in the total volume of production is insignificant. And the projection for the last two months was to present 7.5 million rubles worth of goods for state inspection. The situation did not improve in December. The day before yesterday, assistant director of state inspection, Viktor Shestakov, reported that since the beginning of December only 543,000 rubles worth of production was presented, and only 118,000 rubles worth was accepted (11.4 percent).

Inspection of the KAZ-4540 dump truck began here on November 1. But because the breaking-in stand for vehicles and the stands for testing hydraulic systems and pneumatic systems on the vehicles on the main conveyor are not certified, it is not possible to determine precisely the correspondence of products to the requirements of specifications and standards. In the first presentation the vehicle does not withstand the inspection conditions. A large volume of checking and finishing operations is needed. In connection with this, fulfillment of the state plan is being defeated.

At the plant it is necessary to expand the incoming control sector and to assemble and put into operation testing stands for 11 purposes. The delivery to KAZ of 16 stands from 9 enterprises, including Bulgaria, is unpardonably delayed.

The state inspection organ at the KAZ association is still understaffed. Service facilities have not been apportioned, and work places for inspection workers have accordingly not been equipped in the production shops. And it is necessary to supply 24 work places with everything needed.

Besides that, it is necessary to establish conditions for the fruitful activity of the workers who are carrying out analytical and registration operations. For them, it is true, 15 work places have been allotted, but they need to be brought up to standard. The state inspection workers also need a contact inside the plant.

The other day the bureau of the Kutaisi party gorkom heard and discussed the account of general director of the association, Tengiz Gendzehadze, of the course of preparing for innovation. And it became clear here that economic workers and state inspection directors had fenced themselves off from one another. For example, the state inspection organ needs several qualified automobile workers, capable of accepting finished vehicles, and so far they are searching for them anywhere, only not at the plant where, it would seem, they should be, since new vehicles are fully assembled here. . . Why? Because it turns out that production directors are not agreeing to the transfer of qualified specialists to the state inspection organ. You will not get far with such a narrow, departmental, short-sighted approach to business. Here the vehicle plant party raykom for the city of Kutaisi and the partkom for the enterprise should have their say.

Certain shop directors underestimate the significance of the state inspection. They simply are not conscious of what the planned changes could lead to if they do not prepare for them in good time. For example, in the new welding-assembly line and the unit building, the conditions for work under state inspection and self-support, which were being instituted since the beginning of the year, were not brought to the attention of the workers. People should understand clearly that under the new management conditions both the honor of the plant's label and their salary will depend on the quality of their labor, on the end results of the work. And the standard here will be state inspection of production, which will impartially reveal all the flaws in production.

All these enumerated problems are basically connected with the production of the new agricultural truck tractor, whose production is provided for by the USSR Food Program. And what is to be done with the old vehicle KAZ-608V, which has been produced for 18 years already and has long failed to meet modern needs? It is made poorly at the plant, and it is impossible to improve the quality, since, for example, the rigging and equipment on the pressing-body line is worn out. The side members for the frame are manufactured with large deviations from the design as are the rivetting on the frame, painting of the cab, and other parts of the vehicle. The situation is approximately the same with the production of semi trailers at the Gegutskiy branch association. And nevertheless they do not plan to take this product out of production. At the same time it is clear that the old vehicle and the Gegutskiy semi trailer will not pass inspection.

**And there is less and less time remaining before the new year. And one would think that it is perfectly clear that we need to solve the problem of obsolete production in the near future. True, until the last minute the association's management hoped that the KAZ-608V would not be included in the group of products subject to inspection. But these hopes turned out to be vain; in the last few days it became known that a full 100 percent of the auto workers' goods have to pass departmental control.**

**"We live in a very tense, very crucial time for the fortunes of our country and our people," said M.S. Gorbachev recently at a conference of the CPSU Central Committee. "We must remember this well. Without loud words I will say: today we are going through such a period, such a stage where if we cope with the problems before us, it will have historic consequences for the country and its role in the world."**

**A natural connection is coming into force: quality of labor is quality of production is quality of life. And everyone should understand this for himself.**

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RAIL SYSTEMS

AMUR-YAKUTSK MAINLINE CONSTRUCTION HITS SNAGS

**Financing Scandal**

Moscow IZVESTIYA in Russian 24 Jan 87 p 1

[Interviews by O. Borodin (Yakutsk), commentary by V. Kulikov, deputy chairman of administration, Stroybank: "Why AYaM Financing Was Cut Off"; first two paragraphs are IZVESTIYA introduction]

[Text] The Baykal-Amur Stroybank office received the following telegram: "Cut off financing for the new Berkakit - Tommot line as of 1 January 1987 because of Soyuzminput [not further identified] failure to allocate sufficient 1987 capital investment to meet construction duration norms. Inform the contractor organizations. Stroybank, Kulikov."

Thus, a detachment of more than 5,000 construction workers on a new line whose installation is outlined by the "Basic Directions of USSR Economic and Social Development in 1986-1990 and Up To 2000" have been left without means of support and with practically no work.

Glavbamstroy chief engineer B. V. LEBED: "If we carry out the USSR Stroybank resolution now, we will have to immediately disband the collectives, pull people off the route, 'mothball' the settlements, and stop work on the whole length of the line. That is, the situation on the route, which is already complicated by inadequate construction financing (we have been working under these conditions from the word go), will become extremely difficult.

"We began building the new road in the spring of 1985, when the CPSU Central Committee Politburo approved a proposal to extend the meridional branch of the BAM to the north. It had to be done quickly, and a special resolution on preferential financing was adopted at that time. We began building from the working drawings. In the time since then, we have already utilized more than 100 million rubles, creating settlements along the route and doing a great deal of preparatory work....

SMP-595 tracklayer brigade leader and Yakutsk ASSR Supreme Soviet Deputy A. IVANCHENKO: "Right from the start of this new construction project, from the time the 'silver link' was laid, there was a lot of noise about people working at half-speed, in a relaxed way,.... And now this news! It doesn't promote

enthusiasm. Our collectives have high personnel turnover as it is. Why? The managers of the construction site pay little attention to social, cultural and personal services, and all the settlements are 'temporary'. Everything has to be economized on, just to lay perhaps another meter of track. But even in this situation, the construction site lacks a great deal. For example, we don't have any ties at all.... The wages are appropriately...low. People are retained at the site only in hopes that this can't continue for long and that we'll sometime be moving North at the same pace they are on the BAM."

Yakutsk ASSR Council of Ministers Chairman S. MARKIN: "Construction of the most important railroad project today, not only for Yakutia, but for the entire northeast, has been halted. We insist that the tracklaying be speeded up. After all, when the railroad begins operating, a whole series of very vital problems of developing the region's economy will be solved and the riches of Southern Yakutia, with its deposits of iron ore, coal and apatites, will be mastered considerably faster and more economically.

"The hold-up in building this road is costing the state dearly: river transport cannot cope with this amount of freight, and it remains warehoused in considerable quantities. Capital creates no value, and the resulting losses are now in the billions. Last year, the republic hauled in six million tons of freight, and it will need to be hauling in more than nine million tons by 1990 (due to the intensive growth in the republic economy)!"

I agree: financial discipline needs to be tightened and the number of projects being built at any one time needs to be reduced. But if it was decided to give the Berkakit - Tommot line preferential financing, that must have been dictated by state interests, and the USSR Stroybank needs to weigh its decisions carefully.

[From the editors:] To clarify the situation, we asked USSR Stroybank Board Chairman V. Kulikov, who signed the telegram cited at the start of the article, to comment on the bank's actions.

"What the Yakutsk ASSR Council of Ministers chairman said is very true: we do need to tighten financial discipline. That is precisely what dictated our decision. The construction project's preferential financing by decision of the USSR Council of Ministers, already mentioned above, was done in strict accord with the directive. In 1986, AYaM construction workers were allocated 40 million rubles. This year, the figure was increased to 70 million, but that didn't last long. The Ministry of Railways withheld 30 million and 'redeployed' it at other construction sites, assuming that the Stroybank would find additional funds to finance the Berkakit - Tommot line. We did not find those 'extra' millions. The Ministry of Railways is now urgently returning the millions cut out to those for whom they were intended."

FROM THE EDITORS: We know the enormous amount of work being done here to concentrate funds at the most important projects and to finish up ones long in construction. As a state monitoring agency, however, the Stroybank is quite justified in demanding strict observance of financial discipline at the construction sites and strict conformity of the funds being allocated to construction normatives and normative schedules.

## Bridge Construction Delays

Moscow GUDOK in Russian 8 Jan 87 p 2

[Article by M. Morozov, assistant editor of BAM newspaper, under the rubric "A Critical Sign": "AYaM: Why Is the Tracklayer Idle?"]

[Text]--Tomot--The first "silver link" of the Berkakit - Yakutsk track, which will become the Amur-Yakutsk mainline, was laid near Neryungri in April of 1985. Over the past half year, the tracklayer of A. Ivanchenko's brigade has not budged. Tracklayers of the Komsomolets Yakutii detachment are working on tracks at nearby BAM stations. At the same time, more than 20 kilometers of the AYaM is ready for track. The whole problem is that the Chulman River intersects the Tommot route at five points. These require bridges, but thus far, not one has been readied for the tracklayer.

There is supposed to be a 200-meter bridge crossing, the first of five on the Chulman, at the 17th kilometer. Three distinguished brigades of bridge detachment No 76, those headed by N. Lemeshko, N. Kushnir and F. Patsanovskiy, are concentrated here. When they were working on the BAM, GUDOK wrote more than once about the successes of these collectives. What's happened? Why are these leading workers holding up the tracklayer? The bridge-builders reply.

"We have done everything we can: the supports were put in before the flood period, but we've been able to install only one span so far. There's no metal for the others, because we were let down by our suppliers, the Kurgan and Chekhov plants."

Another, equally renowned, subdivision, bridge detachment No 49, is building the largest bridge on the route, a 500-meter bridge across the Chulman. It needs to install about 3,000 cubic meters of prefabricated reinforced concrete and 3,500 cubic meters of monolithic reinforced concrete and to assemble more than 1,500 tons of metal components. Imposing numbers, and the bulk of this work has in fact been done. All the intermediate supports have been raised. I. Borisevich's brigade of Komsomol young people is ready to install the span abutments. But again, everything's being held up for want of metal. The assignment for the last quarter was wrecked due to a lack of [metal] components. There's nothing for the detachment's installers to work on in the first quarter of 1987 either. This is all the more shameful since the bridge builders worked hard to install the supports, completing the assignment way ahead of schedule.

When they arrived to build this bridge, it turned out that the branch didn't have a plant producing the modules for this new standard design. In order to speed things up, the bridge builders had a suggestion: use modules of their own design for this crossing, as their production had already been mastered at trust test facilities. True, these modules have only been used on the Aldan highway bridge so far. But when their design was slightly modified to meet these new needs, the expert appraisal was positive. It was decided to use them to install the railroad bridge. Trying to make up the time lost, people worked in three shifts, and they did manage to get the supports up before the flood period. However, their efforts turned out to have been in vain.

"We're thinking about sending a delegation to supplier plants in Komsomolsk-on-Amur and Ulan-Ude," says detachment foreman A. Snitko. "Time was, such visits were effective. They helped develop a 'workers relay race', but now we don't have much hope that it will work. The fact is, the plants are receiving this type of metal very sporadically."

The same is true of the other Chulman bridges.

"The attitude towards this construction project is clearly not the same as it was on the BAM," comments A. Snitko. "Before, when a tracklayer was coming up, we tried to do everything we could to get it through on schedule. But now, even though there are months of idleness, no one deals with the problem. And so all this professional experience is wasted at the new construction site. It seems to me that using potential this way is not in the state's interest. Setting up the work this way cheapens our efforts, reduces labor productivity and increases personnel turnover."

It's hard to deny. Bridges have always been considered the keys to railroad construction. If the keys are not ready on schedule, the route is solidly blocked to the tracklayer. Of course, one can seek consolation in the fact that the bridge builders don't need much time to assemble the span girders and that the normative schedule can be met by the installers, even for this 500-meter bridge. But at what price? At the price of exceptional strain, fuss and haste.

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## RAIL SYSTEMS

### USSR 1986 RAILROAD PERFORMANCE STATISTICS

Moscow GUDOK in Russian 24 Jan 87 pp 1-2

[Article based on Ministry of Railways reports and Statistical Reporting Administration Materials: "First Stage of the Five-Year Plan: Review of Rail Transport Operation in 1986"]

[Text] The current restructuring, acceleration of technical progress, extensive introduction of intensive technologies, and expanded struggle to increase the effectiveness and quality of labor has enabled railroaders to finish carrying out the 1986 overall freight hauling plan with more than a week to spare. The passenger hauling plan was met nearly two weeks ahead of schedule. Equipment use was improved. The labor productivity assignment was met with considerable room to spare. Shipment net cost was reduced and an above-plan profit was realized. Both the planned assignments and a majority of the socialist obligations of branch workers were significantly overfulfilled.

However, there are still quite a few shortcomings in the work of the systems and the enterprises. Uneven operation leads to losses of loading resources. The status of train traffic safety, freight protection and the organization of passenger hauling are causing great alarm. Losses of working time are still high.

**FREIGHT HAULING.** The annual plan was fulfilled by 24 December. Some 4.061 million tons of freight was hauled. Eighty-one million tons worth of national economic output was delivered above the plan. Compared with 1985, shipment volume was increased by 126.9 million tons, or 3.2 percent.

Rock loading was considerably better. The plan was met for the entire products list of freight except for timber and refractory materials. We hauled above-plan 11.6 million tons of ore, 6.5 million tons of ferrous metals, 4.7 million tons of industrial and casting-mold raw materials, 0.6 million tons of granulated slag, two million tons of coke and 2.2 million tons of cement.

The additional assignments set by the USSR Council of Ministers for hauling fuel to create stockpiles at enterprises and electric power plants were met.

We delivered above plan 20.6 million tons of coal and three million tons of petroleum.

Particular attention was paid to hauling freight from the agro-industrial complex. We hauled above-plan 5.8 million tons of grain and milled products, 1.9 million tons of mixed feed, 1.5 million tons of chemical and mineral fertilizers and 0.5 million tons of perishable food products. The potato, vegetable and fruit hauling assignment was overfulfilled by 40 percent.

A majority of the systems coped with the annual freight hauling plan ahead of schedule. The Tselina, Kemerovo, Krasnoyarsk, Central Asian, Southeastern, Dnepr, Donetsk and Belorussian systems made the greatest contributions to above-plan shipments. The Odessa, Baltic and Transcaucasian systems failed to cope with the freight hauling plan.

One hundred fifty-two of the 174 divisions implemented the annual plan.

AVERAGE DAILY UNLOADING was increased by 2.8 percent over 1985. However, only 13 systems coped with the unloading plan. Collectives in the Northern, Donetsk, Kuybyshev, Gorkiy, Tselina, Kemerovo and East Siberian systems carried out the plan for this indicator stably throughout the year.

FREIGHT TURNOVER increased by 116 billion ton-kilometers as against 1985, or by 3.1 percent, reaching 3.8345 trillion ton-kilometers. The planned assignment was exceeded by 2.5 percent. The entire increment in freight turnover was achieved by increasing shipment volume. Average hauling distance remained at the 1985 level.

PASSENGER TURNOVER was 390 billion passenger-kilometers, which is four percent above plan and 4.3 percent above the 1985 level.

LEVEL OF EXIT ROUTING. The volume of freight shipment by route rose to an average of 2,400 cars per day, to 89,200 cars. In this regard, the proportion of hauling by route remained at the 1985 level of 43.5 percent of total volume. The proportion of routes with a single-station destination decreased.

INTERSYSTEM JUNCTION TRANSFERS. Increased on all systems except for the Donetsk, reaching 381,300 cars. The increment in terms of 1985 was 14,500 cars. Transfers increased most on the West Siberian, Kemerovo, Belorussian, Southwestern, Gorkiy, Southeastern and Moscow systems.

A number of rolling stock use indicators were improved in 1986.

STATIC LOAD was 360 kg higher than planned last year and 160 kg above the 1985 level. Given the growing volume of hauling, improvement in using the load capacity and volume of freight cars -- an important reserve for increasing operating effectiveness -- is thus far being used by no means fully.

CAR TURNAROUND was speeded up by four percent. Car productiveness also rose. The best results in these indicators were achieved on the Volga, Azerbaijan, Alma-Ata, Baykal-Amur, Southeastern, Tselina, Donetsk, Southern and Lvov

mainlines. Twenty-three systems reduced car idle time by at least one car barn and by one freight-handling operation.

FREIGHT TRAIN WEIGHT. Implementation of the planned program permitted a network-wide increase of 61 tons, which is nearly 29 percent of the increment in train weight during the 11th Five-Year Plan. At the same time, the Baltic, Odessa, Alma-Ata, Central Asian, Sverdlovsk, West Siberian and Azerbaijan systems failed to cope with this plan indicator.

AVERAGE DAILY RUN per locomotive rose by 12.8 percent. The Baltic, Transcaucasus, Gorkiy, Northern and Transbaykal systems allowed it to drop, however, leading to poorer locomotive productivity on those systems. And although the remaining mainlines improved their performance in terms of this indicator as against 1985, for the network as a whole, the locomotive productivity assignment was met by only 96.2 percent. It was met on the Baykal-Amur, Azerbaijan, Krasnoyarsk, East Siberian, Kemerovo, West Kazakhstan and Tselina systems.

This past year, traffic was organized more precisely. Freight trains were either on schedule or less late 75.3 percent of the time, which is 3.1 percent better than the preceding year. This indicator was improved on 24 systems.

At the same time, a number of systems still were not up to par in following schedules. The situation was worst on the Gorkiy, Kuybyshev, Volga and Southeastern systems.

The sector speed of passenger train traffic rose on a majority of the systems. Schedules were met 98.3 percent of the time, an improvement of 0.9 percent. Schedule performance was improved on 26 systems, and the best improvement was on the Kemerovo, Central Asian, Southeastern, Volga and Azerbaijan systems. Passenger trains ran on time 98 percent of the time or better on the Krasnoyarsk, Tselina, Belorussian and East Siberian systems.

Improvement in traffic organization was reflected positively in the use of locomotive crews. Disruptions in their working and rest conditions were reduced 2.3-fold. However, there were still a great many such disruptions, and they must be resolutely combatted.

CARRIER HAULING. Last year, 54.5 million tons of freight was delivered in multipurpose containers, that is, at the planned level. The increment over 1985 was 4.2 percent. Container hauling increased most on the Belorussian, Azerbaijan, Gorkiy, Southern, Southwestern, Sverdlovsk and Kuybyshev systems. At the same time, 10 systems failed to carry out the plan, including the East Siberian, Baltic, Far Eastern, West Kazakhstan and Donetsk.

Packetized freight hauling increased. Upwards of 220 million tons was hauled in packets, which is 1.1 percent more than planned and 5.7 percent above the 1985 level.

SUBDIVISIONS OF THE MAIN ADMINISTRATION FOR INDUSTRIAL RAIL TRANSPORT overfulfilled the hauling plan by 6.4 percent. Some 36.1 million tons of freight was hauled above the plan. The growth over last year was 7.5 percent,

or 42 million tons. The freight-handling plan was carried out by 105.7 percent. Twenty-one million tons was processed above the plan. The Kuybyshev and Novosibirsk territorial associations failed to meet the plan.

SUBWAYS met the annual passenger hauling plan ahead of schedule and exceeded it by one percent. They hauled 47.6 million more passengers than planned. Some 4.3 percent more passengers were hauled than in the corresponding period last year, or a total of 190.2 million passengers. At the same time, the Leningrad and Baku subways did not meet their assignments, and the numbers of passengers hauled dropped from preceding years.

MINISTRY OF RAILWAYS INDUSTRIAL ENTERPRISES marketed 2.9 percent more output than planned in 1986. Production volume rose by 4.2 percent as against 1985. Given overall plan fulfillment by the main administration, due to the failure to carry out the maintenance program, lag was permitted at the Voronezh Diesel Locomotive Repair Plant, the Baku Car Repair Plant and the Kaluga Track Repair Plant. Main administration plants met the major overhaul plan for all types of rolling stock except passenger cars.

Much was done in 1986 to strengthen the branch material-technical base. We put into operation 548 kilometers of new track, 694.3 kilometers of secondary track and 2,108,600 kilometers of electrified track. The housing and personal-services construction program was overfulfilled, as were the programs for releasing housing space (BAM included), preschool institutions, secondary schools, hospitals, polyclinics, and vocational-technical schools. However, a total of 68.8 million rubles was not used, of which 63.5 million rubles was available to organizations of the Ministry of Transport Construction.

The Ministry of Transport Construction permitted substantial lag in carrying out the plan for renovating locomotive, railcar and other facilities, rolling stock repair plants, and plants producing spare parts. The start up of a number of facilities was not achieved, including locomotive and car depots and capacities to produce switches at the Novosibirsk and Dnepropetrovsk switch plants.

The Ministry of Transport Construction was 10,400 square meters short of meeting the plan for releasing housing to railroad workers. It failed to complete a hospital in Kishinev, a polyclinic in Voronezh, and a vocational-technical school at Nyandom Station.

At the same time, the plan for starting up housing was met by 110.2 percent by organizations of the Ministry of Railways, with subcontractors meeting the plan by 113.3 percent. Assignments for starting up housing were overfulfilled on the Southwestern, Belorussian, Krasnoyarsk, Northern, Donetsk and Transbaykal systems. At the same time, 10 systems permitted plan nonfulfillment, among them the Volga, Sverdlovsk, South Urals and Kuybyshev systems, where there is a critical need for housing.

LABOR PRODUCTIVITY. The accelerated introduction of the achievements of technical progress, developing technology, the extensive use of leading experience and combining occupations have enabled the entire increment in hauling to be mastered through labor productivity growth. Given an assignment

of 2.1 percent, the increment in this indicator was 7.6 percent. The plan assignment was thus exceeded 3.6-fold, and both all the systems and all the main facilities of the network coped with it. This also ensured that the socialist obligations were met. The system collectives which switched over to the Belorussian method contributed most to that. The highest labor productivity growth was achieved on the Southern, Alma-Ata, Belorussian, Lvov, Central Asian and Moscow systems. Labor productivity was improved on those systems operating under the new management conditions, the Southwestern and the Dnepr.

AVERAGE MONTHLY WAGES of hauling workers were 224.9 rubles. Growth for the year was 4.4 percent. In this regard, the size of the material incentives fund bonus increased by 6.7 percent. The correct ratio of wage growth rate and labor productivity growth rates was ensured on the network as a whole and on all the individual systems but the Transcaucasian and the Baykal-Amur.

Labor organization among workers in the basic services was better last year. The number of hours of idle time was reduced by 20 percent; overtime was cut by 16.5 percent. At the same time, the Baykal-Amur and Far Eastern systems allowed overtime to increase. There, and on the Sverdlovsk and Belorussian systems, the number of hours of idle time rose. Forty-four million rubles was spent unproductively to pay for overtime and unworked hours.

So the first year of the five-year plan is over. The policy of comprehensive intensification and accelerated introduction of the achievements of technical progress has brought tangible results. But a critical evaluation of the path traveled does not allow us to be satisfied with what has been achieved. The more so, since the harsh winter months revealed serious mistakes in preparing railroad facilities for operation during that difficult time: oversights in hauling technology and organization and in equipment maintenance. Twenty-four million tons less freight than planned has been shipped out since the start of the year. This sizeable debt must be repaid as quickly as possible. To do so, primary attention should be focused on eliminating shortcomings in our work, on unconditional fulfillment of loading plans in terms of products mix to be hauled, and there should be no cases of failure to pick up output at enterprises.

The steel mainlines will be making extensive use of economic management methods in 1987. The changeover of all systems to the new management conditions will permit a sharp rise in production efficiency and will ensure accelerated labor productivity growth.

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